Tobacco Use among Middle and High School Students in Colusa County: Findings from the 2017–18 California Student Tobacco Survey

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EXECUTIVE SUMMARY

This report summarizes the main findings from the 2017–18 California Student Tobacco Survey (CSTS) for Colusa County. The survey was administered in Colusa County to 8th, 10th, and 12th grade students from May 2018 to October 2018. Four CSTS-eligible schools and two schools that were not CSTS-eligible (due to small school enrollment) were selected by Colusa County's Tobacco Education Program. The project was conducted by the University of California, San Diego. During the survey period, 557 students from three high schools and three middle schools in Colusa County participated in the survey.

The survey was designed to assess use of, knowledge of, and attitudes toward tobacco products, including cigarettes, e-cigarettes, little cigars or cigarillos (LCC), big cigars, hookah, and smokeless tobacco. The survey also assessed social and environmental exposure to various tobacco products. Marijuana was included in the survey since co-use of marijuana and tobacco products is common. Basic results for marijuana use among all participating students are presented in Appendix A.

This report summarizes results based on participating students from 8th, 10th, and 12th grade from Colusa County. Please note that the prevalence data cannot be directly compared with rates in the statewide report, which focuses only on high school students (10th and 12th graders).

The following key findings are presented in this report:

Key Findings

Tobacco Use Behavior

- In 2017–18, current use of any tobacco product was low, with 9.8% of Colusa County students using at least one product in the past 30 days.
- E-cigarettes were the most popular tobacco product, with 6.6% of Colusa County students using them in the past 30 days.
- Current use of combustible tobacco products was very low. Current use of each product was less than 3.0%.
- Use of multiple tobacco products was relatively common among tobacco users, with more than one-third using two or more products (36.7%).
- Among Colusa County students who were current e-cigarette users, the most popular motivations to use e-cigarettes were *just because* and *to relax*.
- The majority of current student tobacco users in Colusa County reported using flavored tobacco (84.7%). *Fruit or sweet* was the most commonly reported flavor selected for e-cigarettes (61.4%) and combustible tobacco (57.4%). *Mint* was the most popular flavor for smokeless tobacco (82.9%).

Risk Factors for Tobacco Use

- Among Colusa County students who had never used tobacco, more than one-third were susceptible to future use if offered by a best friend (36.8%).
- More e-cigarette users reported getting their e-cigarettes from social sources (60.9%) than paying for their own e-cigarettes (39.7%).

- Approximately one-sixth (17.1%) of Colusa County students were offered a tobacco product in the past 30 days, with one in ten (9.7%) never users receiving offers.
- Approximately two in five Colusa County students believed that it would be easy to get e-cigarettes (43.4%), cigarettes (38.2%), or smokeless products (39.1%) if they wanted them.

Exposure to Tobacco Use

- Even though most students in Colusa County reported living in a home that had complete bans on vaping (80.3%) and smoking (85.1%), nearly two in five students had been exposed to vapor or smoke in a room or car within the last 30 days (38.1%).
- Nearly three in five (57.7%) Colusa County students agreed that secondhand e-cigarette vapor is harmful.
- More than half of students were exposed to e-cigarette-related (51.3%) than cigarette-related (63.7%) ads. The majority of students who saw cigarette-related ads reported seeing those that discouraged its use (55.8%).
- The majority of Colusa County students who visited convenience stores or small markets in the past 30 days were exposed to flavored tobacco ads (76.5%).

DEFINITIONS USED IN THIS REPORT

Tobacco Products

E-cigarettes (vapes, e-hookah, hookah pen): Also called e-cigs, vape pens, tanks, or mods. Some come with liquid inside and others you fill yourself. Popular names are Blu, NJOY, MarkTen, Juul, Suorin, Imperial, and Fantasia.

Cigarettes: Sold in packs and cartons. Popular brands include Marlboro, Newport, Pall Mall, Camel, and Winston.

Little cigars or cigarillos (LCC): Wrapped in tobacco leaf or brown paper containing tobacco. May be flavored. Popular brands are Swisher Sweets, White Owl, and Black & Mild. Little cigars or cigarillos is abbreviated to LCC throughout this report.

Big cigars: Tobacco wrapped in a tobacco leaf. Popular brands are Romeo Y Julieta, Cohiba, Davidoff, and Ashton.

Hookah: Water pipe used to smoke flavored tobacco (shisha). Popular brands are Starbuzz, Al-Fakher, Samba, and Social Smoke.

Smokeless tobacco (chew, dip, snuff, or snus): Loose leaf or ground tobacco leaves. It comes in a large pouch (bag) or in tins. Popular brands are Red Man, Copenhagen, Grizzly, Skoal, Swedish Match, and Klondike. Snus comes in a small pouch (like a tea bag). Popular brands are General, Marlboro, and Camel. Smokeless tobacco is abbreviated to smokeless throughout this report.

Definitions of Product Use

Ever use: Having used within a lifetime

Current use: Use within the last 30 days

Poly use: Use of two or more tobacco products in the last 30 days

Flavored tobacco product use: Use of a flavored tobacco product within the last 30 days

Never user: A student that reports having never used the tobacco product(s)

Former user: A student that reports having used the tobacco product(s), but not within the last 30 days

Current user: A student that reports using the tobacco product(s) within the last 30 days

Other Terms*

LGBTQ Community Affiliation: Responded *yes* to the question: "Do you identify yourself as LGBTQ?"

Susceptible to future tobacco product use: Responded *definitely yes*, *probably yes*, or *probably not* to the question: "If one of your BEST FRIENDS offered you [tobacco product†], would you use it?"

Not susceptible to future tobacco product use: Responded *definitely not* to the question: "If one of your BEST FRIENDS offered you [tobacco product†], would you use it?"

Complete home ban on vaping: Indicated that *vaping e-cigarettes is not allowed inside my home* when asked about the rules about vaping e-cigarettes inside the home.

Complete home ban on smoking: Indicated that *smoking is not allowed inside my home* when asked about the rules about smoking cigarettes or other tobacco products inside the home.

Exposure to secondhand vapor in a room: Indicated being in a room *when someone was using e-cigarettes (including e-hookah and hookah pens)* in the last 30 days.

Exposure to secondhand vapor in a car: Indicated being in a car *when someone was using e-cigarettes (including e-hookah and hookah pens)* in the last 30 days.

Exposure to secondhand smoke in a room: Indicated being in a room *when someone was smoking a cigarette, little cigar, or cigarillo* in the last 30 days.

Exposure to secondhand smoke in a car: Indicated being in a car *when someone was smoking a cigarette, little cigar, or cigarillo* in the last 30 days.

Offers of tobacco products: Responded *yes* to the question: "In the last 30 days, has ANYONE offered you [tobacco product‡]?"

Exposure to tobacco ads: Indicated having seen ads that either promoted or discouraged the use of a tobacco product (e.g., e-cigarettes, cigarettes, LCC) in the last 30 days.

*These terms are based on student responses to the questions in the 2017–18 CSTS. *I prefer not to answer* was included as a response option for all survey questions.
†Tobacco products the respondent had never used.
‡Tobacco products included e-cigarettes, cigarettes, little cigars or cigarillos (LCC), and hookah only.

A Word of Caution on Interpretation of Rates and Proportions

All estimates of rates and proportions should be interpreted in reference to their 95% confidence intervals. Although estimates are roughly the median of this interval, the range of the confidence interval is the best descriptive measure for statistical accuracy. Therefore, estimates with wide confidence intervals should be interpreted with caution. Data that are statistically unreliable because the coefficient of variation (also known as relative variance) is greater than 30% are marked with a dagger symbol (†) in the tables. Please pay special attention when estimates are based on small sample sizes. All data should be interpreted with caution.

CHAPTER 1 – Tobacco Use Behavior

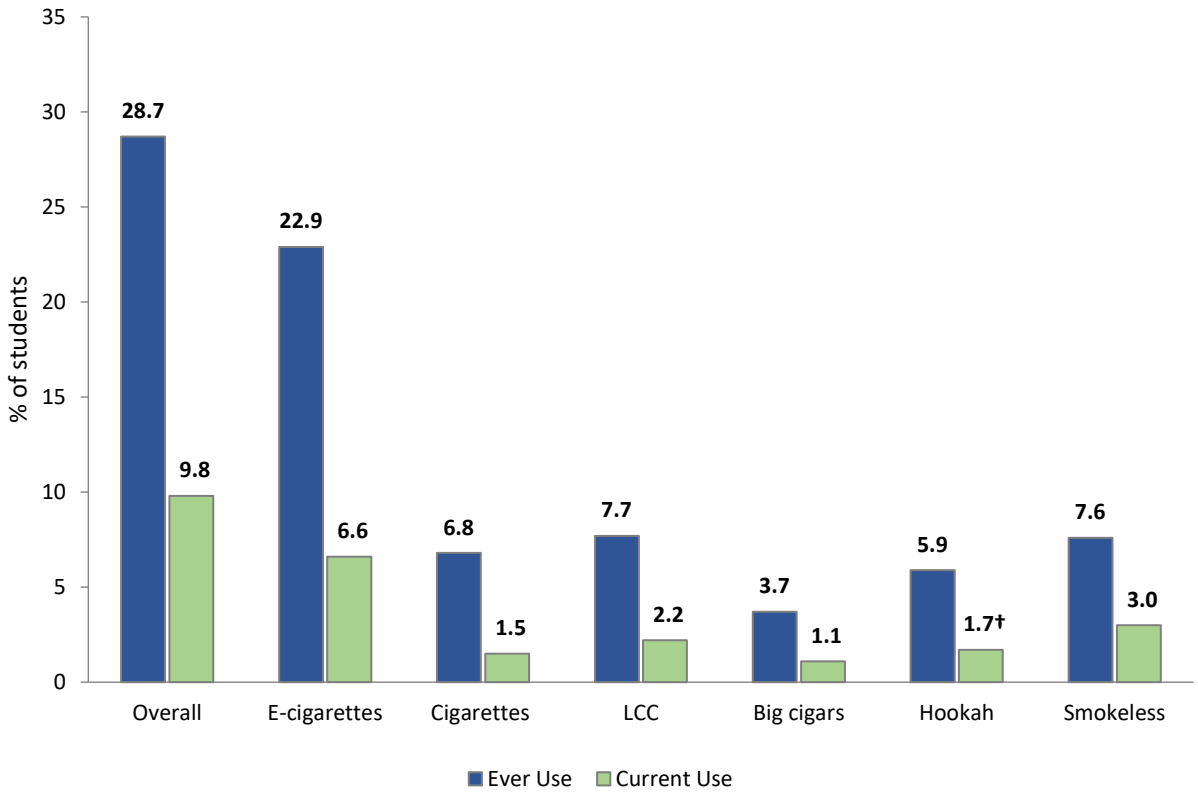
Highlights

- 9.8% of students in Colusa County reported currently using any tobacco product.
- E-cigarettes had the highest current use rates at 6.6%.
- Current use of combustible tobacco products was low. Current use of each product was less than 3.0%.
- Over one-third of current users reported using two or more tobacco products.
- The most popular motivations to use e-cigarettes among current vapers were *just because* and *to relax.*
- 36.8% of students in Colusa County who had never used a tobacco product were susceptible to using at least one tobacco product in the future.

Tobacco Product Use among Middle and High School Students

In Colusa County, 28.7% of middle and high school students have tried any tobacco product, while 9.8% reported currently using a tobacco product (Figure 1, Table 1). In both cases, the majority of use was attributed to e-cigarettes, with 6.6% of students reporting currently using the product. By contrast, current use rates for all combustible tobacco products were less than 3.0% each.

Figure 1. Prevalence of ever and current use of tobacco products



Note: Refer to Table 1 to view estimates with confidence intervals.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 1. Prevalence of ever and current use of tobacco products

	Ever use N=554 % (95% CI)	Current use N=554 % (95% CI)
Overall	28.7 (22.2-35.1)	9.8 (6.4-13.2)
E-cigarettes	22.9 (16.9-29.0)	6.6 (4.0-9.2)
Cigarettes	6.8 (4.4-9.2)	1.5 (0.8-2.2)
LCC	7.7 (5.1-10.2)	2.2 (1.2-3.2)
Big cigars	3.7 (2.2-5.2)	1.1 (0.5-1.7)
Hookah	5.9 (4.0-7.8)	1.7 (0.6-2.9)†
Smokeless	7.6 (4.4-10.9)	3.0 (1.6-4.4)

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Demographic Categories

For race/ethnicity, survey participants were first grouped by whether they were of Hispanic (Latino) origin (ethnicity). Those who classified as *non-Hispanic* were further divided into specific races that they identified with. If respondents selected more than one race, they were classified as *Multiple* race. There was also an option for *Other* race for non-standard entries. For this report, *White* and *Hispanic* were the only singular races/ethnicities reported. *Other* includes all other races (e.g., Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, Black, Asian, Multiple, and Other). This is due to the low sample sizes of students reporting those races in Colusa County, and delineating those races may compromise student confidentiality. Approximately 17.9% of all students were categorized as *Other* race/ethnicity, and 10.0% declined to answer either race/ethnicity question.

For the question on gender, there is a response option *I identify my gender in another way* in addition to *Male* and *Female*. Approximately 3.1% of all students identified their gender in another way, and 9.4% declined to answer the gender-identity question. Rates of declining to answer this type of question are comparable to those in other surveys of California's middle and high school population (e.g., the California Student Survey and the California Healthy Kids Survey).[1] Students who chose *I identify my gender in another way* or declined to answer were combined to form the gender category *Other* in this report. Students were also asked whether they identified as LGBTQ. Approximately 9.5% of students identified this way. Due to the small sample size, however, we did not report use rates based on LGBTQ Community affiliation.

Throughout the survey, students were given the option of *I prefer not to answer*. Results from this group are presented when endorsement of this response option was considered meaningful and most likely non-random (e.g., gender, race/ethnicity) and/or where the group was deemed sizeable. When the proportion for the declined-to-answer group was small, they were treated as missing and excluded from analysis in order to keep tables readable.

Overall Prevalence of Tobacco Use by Demographics among Middle and High School Students

Tobacco use among students in Colusa County was examined across participant demographics, as presented in Table 2.

There are no significant differences in use behavior between male (9.5%) and female (5.9%) students currently using any tobacco product. Students who identified their gender in another way or declined to answer (*Other* category) had significantly higher rates of current tobacco use (22.2%).

There were no significant differences in current use rates by race/ethnicity. Current use rates ranged from 7.1% among Hispanic students to 13.7% among White students.

Current tobacco use was significantly higher among 12th graders (17.7%) compared to 8th graders (5.0%). There were no significant differences between 10th graders and either 8th or 12th graders.

Table 2. Prevalence of tobacco use by gender, race/ethnicity, and grade

		Ever use	Current use
	N	**% (95% CI)**	**% (95% CI)**
Overall	554	28.7 (22.2-35.1)	9.8 (6.4-13.2)
Gender			
Male	254	31.4 (23.0-39.7)	9.5 (5.6-13.4)
Female	223	21.1 (16.0-26.2)	5.9 (2.8-9.0)
Other	68	40.2 (29.6-50.7)	22.2 (17.0-27.4)
Race/Ethnicity			
White	111	30.0 (15.2-44.7)	13.7 (6.6-20.8)
Hispanic	335	25.4 (19.3-31.5)	7.1 (3.9-10.4)
Other	97	36.4 (30.7-42.2)	13.6 (9.7-17.5)
Grade			
Grade 8	224	20.7 (11.2-30.2)	5.0 (0.9-9.0)†
Grade 10	192	29.0 (23.7-34.3)	9.7 (2.2-17.2)†
Grade 12	138	41.1 (27.6-54.5)	17.7 (9.2-26.2)

Notes: Gender Other = identified in another way and declined to answer; Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Use of Specific Tobacco Products by Demographics among Middle and High School Students

Ever and current use were shown by each tobacco product (Table 1). However, to preserve participant confidentiality due to the small sample sizes of current users of cigarettes, LCC, hookah, and big cigars, those products were combined to form *combustible tobacco*. Estimates will be reported based on three products: e-cigarettes, combustible tobacco, and smokeless tobacco products, for all cross-tabulations unless otherwise stated.

Table 3 indicates that among high school students, males and females had no significant difference in current use for overall tobacco use (9.5% and 5.9%, respectively). However, gender differences are evident between specific tobacco products. For example, male students had higher rates of combustible tobacco use (4.8%) and smokeless tobacco use (2.9%) compared to female students (1.8% and 0.4%, respectively). Those who declined to answer or identified their gender in another way reported significantly higher current use for combustible tobacco (16.3%) and smokeless tobacco (11.7%)

compared to male or female students. There were no significant differences across gender for current e-cigarette use.

Table 3. Prevalence of current tobacco product use by gender

	Male N=254 % (95% CI)	Female N=223 % (95% CI)	Other N=68 % (95% CI)
Overall	9.5 (5.6-13.4)	5.9 (2.8-9.0)	22.2 (17.0-27.4)
E-cigarettes	6.2 (2.7-9.7)	5.3 (2.7-8.0)	10.6 (6.1-15.1)
Combustible tobacco*	4.8 (2.9-6.7)	1.8 (0.8-2.8)	16.3 (9.8-22.9)
Smokeless	2.9 (1.1-4.6)†	0.4 (0.0-1.0)†	11.7 (5.9-17.6)

Note: Gender Other = identified in another way and declined to answer.
*Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying rates for individual tobacco products, interpret estimates with caution.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 4 presents current use of tobacco products by race/ethnicity. There were no significant differences in overall current tobacco use by race/ethnicity. However, Other racial/ethnic students had significantly higher combustible tobacco use rates than Hispanic students (9.3% and 3.3%, respectively).

Table 4. Prevalence of current tobacco product use by race/ethnicity

	White N=111 % (95% CI)	Hispanic N=335 % (95% CI)	Other N=97 % (95% CI)
Overall	13.7 (6.6-20.8)	7.1 (3.9-10.4)	13.6 (9.7-17.5)
E-cigarettes	8.3 (3.3-13.4)†	5.1 (2.4-7.9)	8.2 (5.0-11.5)
Combustible tobacco*	6.3 (2.5-10.1)†	3.3 (2.0-4.6)	9.3 (5.0-13.7)
Smokeless	5.6 (2.4-8.8)	1.2 (0.0-2.6)†	5.7 (2.6-8.8)

Note: Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.
*Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying rates for individual tobacco products, interpret estimates with caution.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 5 presents tobacco product use by grade among students in Colusa County. Current use of tobacco products generally increased with age (though differences were not always significant). Both 10th and 12th grade students commonly used e-cigarettes. However, 12th grade students had a significantly higher current use rate of smokeless tobacco than 10th and 8th graders (7.6%, 1.6%, and 1.4%, respectively).

Table 5. Prevalence of current tobacco product use by grade

	Grade 8 N=224 % (95% CI)	Grade 10 N=192 % (95% CI)	Grade 12 N=138 % (95% CI)
Overall	5.0 (0.9-9.0)†	9.7 (2.2-17.2)†	17.7 (9.2-26.2)
E-cigarettes	2.4 (0.0-4.7)†	7.7 (2.3-13.2)†	12.0 (5.6-18.3)
Combustible tobacco*	3.6 (0.0-7.2)†	4.6 (0.3-9.0)†	7.4 (3.3-11.6)
Smokeless	1.4 (0.0-3.0)†	1.6 (0.0-3.2)†	7.6 (6.7-8.5)

*Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying rates for individual tobacco products, interpret estimates with caution.

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Frequency of Current Tobacco Product Use among Middle and High School Students

Overall, over half of students reported infrequent usage: 54.2% of current users reported using a product on either 1–2 days or 3–5 days (40.6% + 13.6% = 54.2%). Approximately one in five current users (20.5%) used a product on 20 or more days of the past 30 days.

Table 6. Frequency of current use among current users of a given tobacco product

	N*	1 or 2 days % (95% CI)	3-5 days % (95% CI)	6-19 days % (95% CI)	20-30 days % (95% CI)
Overall	52	40.6 (24.8-56.5)	13.6 (4.7-22.4)†	25.3 (11.7-39.0)	20.5 (6.3-34.7)†
E-cigarettes	33	42.8 (16.9-68.7)†	24.4 (10.6-38.3)	12.3 (6.3-18.2)	20.5 (0.0-44.4)†
Combustible tobacco‡	27	40.7 (16.5-64.9)	26.1 (3.1-49.2)†	25.8 (0.4-51.1)†	7.4 (0.0-19.6)†
Smokeless	15	39.7 (28.4-51.1)	6.5 (0.0-13.5)†	34.5 (15.1-53.8)	19.3 (10.4-28.2)

*As some participants used more than one tobacco product, the sum of sample sizes for each product is greater than the overall sample size.

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

‡Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying rates for individual tobacco products, interpret estimates with caution.

Multiple Tobacco Product Use among Middle and High School Students

Table 7 presents current use of multiple products, referred to as poly use, by participant demographics. Overall, 3.6% of students reported using two or more tobacco products, representing over a third of current users. Differences in poly use by demographic characteristics varied in ways one would expect based on tobacco use behavior (i.e., those who had higher rates of using specific products were also the ones who had higher rates of poly use). For example, 12th grade students had higher rates of poly use than 8th grade students (6.6% and 2.2%, respectively).

Table 7. Prevalence of current use of at least one product and of multiple tobacco products

	N	Used at least one product % (95% CI)	Used two or more products % (95% CI)
Overall	554	9.8 (6.4-13.2)	3.6 (2.4-4.8)
Gender			
Male	254	9.5 (5.6-13.4)	3.2 (1.6-4.8)
Female	223	5.9 (2.8-9.0)	1.3 (0.1-2.5)†
Other	68	22.2 (17.0-27.4)	11.9 (8.3-15.5)
Race/Ethnicity			
White	111	13.7 (6.6-20.8)	4.5 (1.6-7.3)†
Hispanic	335	7.1 (3.9-10.4)	2.4 (1.3-3.5)
Other	97	13.6 (9.7-17.5)	6.3 (2.9-9.7)
Grade			
Grade 8	224	5.0 (0.9-9.0)†	2.2 (0.0-4.5)†
Grade 10	192	9.7 (2.2-17.2)†	3.1 (0.4-5.8)†
Grade 12	138	17.7 (9.2-26.2)	6.6 (4.8-8.4)

Notes: Gender Other = identified in another way and declined to answer; Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Motivations to Use E-Cigarettes among Current E-Cigarette Users

Table 8 presents middle and high school students' most important motivation for using e-cigarettes among current users. The most popular motivations were *just because* and *to relax* (25.7% and 22.5%, respectively). A relatively high proportion of students preferred not to answer (19.3%). Notably, no students selected the option *I like the flavors* as their main motivator to use e-cigarettes.

Table 8. Main reason to use e-cigarettes among current vapers

	Current vaper N=31 % (95% CI)
To relax	22.5 (15.3-29.8)
Cloud competitions	6.9 (0.0-15.0)†
It looks cool	3.3 (0.0-7.7)†
To have a good time with my friends	6.4 (3.9-9.0)
I like the flavors	0.0 (0.0-2.5)‡
Because I am "hooked"	6.3 (0.0-13.7)†
Just because	25.7 (20.0-31.4)
Other (open field)	9.6 (3.4-15.7)†
I prefer not to answer	19.3 (14.6-24.1)

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.
‡Confidence interval bound was computed using a method similar to Agresti–Coull for extreme proportions (see Appendix B for more information).

Susceptibility and Tobacco Use Behavior

Intention is a strong predictor of performing a behavior.[2] Research has shown that it is possible to identify students who are at risk of using tobacco products in the future based on their level of intention to use a tobacco product in the future.[3] In the 2017–18 CSTS, Colusa County students who had never used a particular tobacco product were asked whether they would use it if one of their best friends offered it to them (see Definitions Used in this Report). Those who answered anything other than *definitely not* were considered susceptible to future tobacco use. This section presents Colusa County students' susceptibility to future use of any tobacco product, as well as to specific tobacco products.

Susceptibility to Tobacco Use among Middle and High School Students

Figure 2 and Table 9 show the proportion of never users susceptible to future tobacco use. Overall, 36.8% of never users of any tobacco product were susceptible to at least one product. Susceptibility to specific tobacco products varied according to product. Never users in Colusa County tended to be most susceptible to future hookah (29.2%), e-cigarette (26.4%), and cigarette (24.1%) use. They were least susceptible to future smokeless tobacco use (10.4%).

Figure 2. Susceptibility to future tobacco use among never users

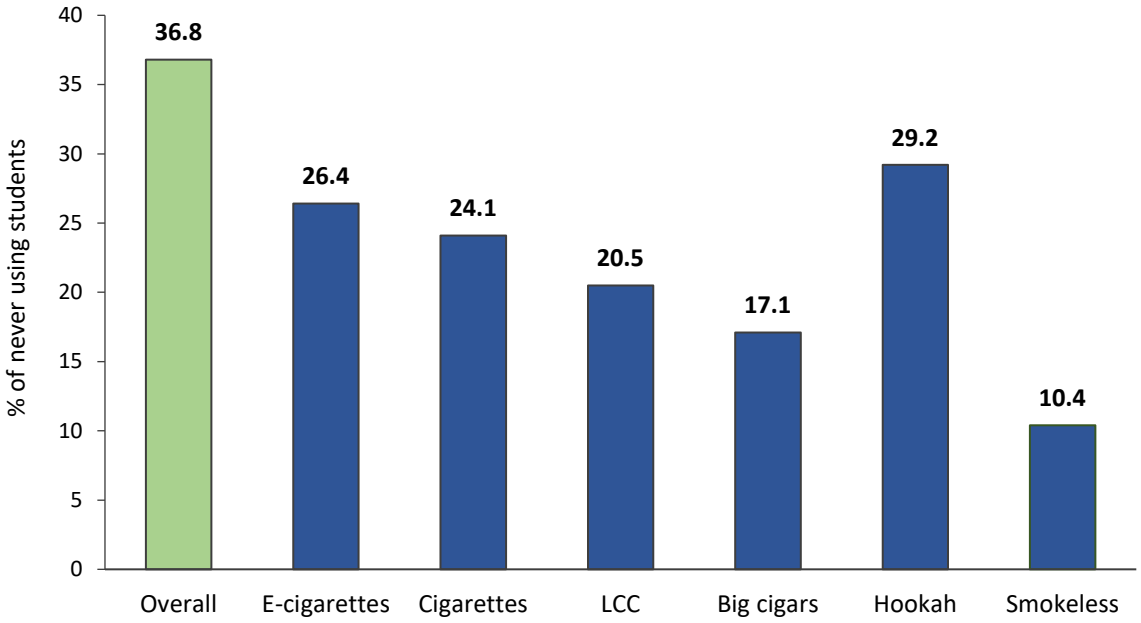


Table 9. Susceptibility to future tobacco use among never users

	Never users of the product	
	N	% (95% CI)
Overall	390	36.8 (33.6-39.9)
E-cigarettes	373	26.4 (23.2-29.6)
Cigarettes	465	24.1 (21.2-27.1)
LCC	461	20.5 (17.6-23.4)
Big Cigars	488	17.1 (14.8-19.4)
Hookah	457	29.2 (25.5-33.0)
Smokeless	475	10.4 (8.0-12.7)

Susceptibility to Tobacco Use by Demographics among Middle and High School Students

Table 10 shows that susceptibility did not differ between gender and racial/ethnic groups; generally, at least one-third of non-users were susceptible to future use for each subgroup. Susceptibility to future tobacco use was approximately the same for students in 8th, 10th, and 12th grades (37.6%, 34.1%, and 39.7%, respectively).

Table 10. Proportion of never users who are susceptible to future tobacco use by gender, race/ethnicity, and grade

	Never users of any tobacco product	
	N	**% (95% CI)**
Overall	390	36.8 (33.6-39.9)
Gender		
Male	172	35.2 (28.4-41.9)
Female	175	36.7 (31.5-41.9)
Other	40	42.0 (31.7-52.4)
Race/Ethnicity		
White	78	29.8 (24.8-34.7)
Hispanic	247	38.6 (32.9-44.4)
Other	60	36.4 (28.1-44.8)
Grade		
Grade 8	176	37.6 (33.1-42.1)
Grade 10	135	34.1 (32.0-36.2)
Grade 12	79	39.7 (30.2-49.1)

Notes: Gender Other = identified in another way and declined to answer; Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.

CHAPTER 2 – Use of Flavored Tobacco Products

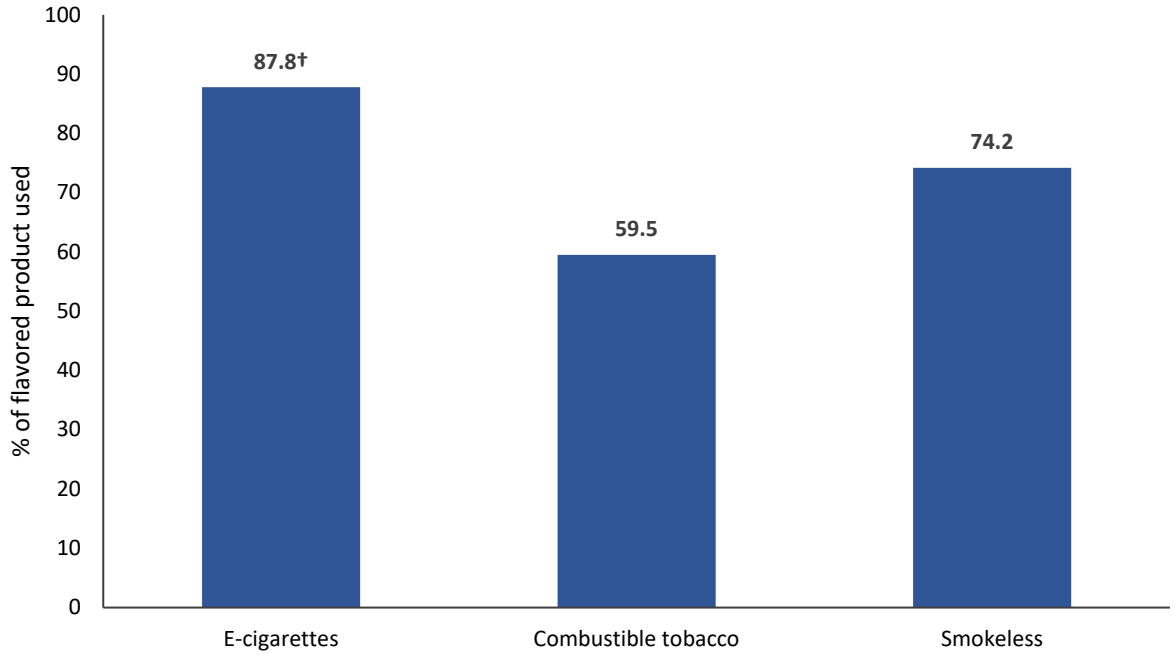
Highlights

- The vast majority (84.7%) of students in Colusa County who were current tobacco users reported using a flavored tobacco product.
- Flavored tobacco use was high for all products: e-cigarettes (87.8%), combustible tobacco (59.5%) and smokeless (74.2%).
- *Mint* was the most common flavor among current smokeless tobacco users (82.9%), while *fruit or sweet* was the most common flavor for e-cigarettes (61.4%) and combustible tobacco (57.4%).
- Nearly three in five students agreed that the tobacco industry targets youth by advertising flavored products (59.3%).
- Approximately one-half of students agreed that there should be a ban on the sale of flavored tobacco products (49.7%).

Flavored Tobacco Product Use among Middle and High School Students

Overall, 84.7% of students in Colusa County who were current tobacco users reported using flavored tobacco products in the last 30 days (data not shown). Figure 3 shows the proportion of tobacco users who reported using flavored tobacco products. Use of flavored tobacco products was widespread across all tobacco products. E-cigarette users most commonly reported using flavored products (87.8%).

Figure 3. Proportion using flavored products among current users



Note: Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying estimates for individual tobacco products, interpret with caution.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 11. Proportion using flavored tobacco products among current users

	N	Flavored product use % (95% CI)
E-cigarettes	32	87.8 (78.1-97.5)†
Combustible tobacco‡	34*	59.5 (42.4-76.7)
Smokeless	15	74.2 (59.7-88.7)

Note: Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying estimates for individual tobacco products, interpret with caution.

*As some participants used more than one tobacco product, the sum of the sample size for this category is greater than the number of students who answered the questions for combustible tobacco products.

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Flavored Tobacco Use by Demographics among Middle and High School Students

Table 12 presents current use of any flavored tobacco product by participant demographics. Across gender, race/ethnicity, and grade, the majority of students who were current users reported using flavored tobacco products in the last 30 days. Students in 12th grade were significantly more likely to use flavored tobacco products than those in 10th grade (91.2% and 78.0%, respectively).

Table 12. Proportion using flavored tobacco among current tobacco users

	N	Current use % (95% CI)
Overall	51	84.7 (76.0-93.3)
Gender		
Male	23	87.3 (75.7-98.9)†
Female	12	75.4 (62.3-88.6)
Other	14	92.9 (83.7-100.0)†
Race/Ethnicity		
White	15	80.5 (67.1-93.9)†
Hispanic	22	81.9 (68.8-95.0)†
Other	12	100.0 (97.2-100.0)‡
Grade		
Grade 8	11	82.0 (73.9-90.1)
Grade 10	18	78.0 (70.0-85.9)
Grade 12	22	91.2 (86.4-96.0)

Notes: Gender Other = identified in another way and declined to answer; Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

‡Confidence interval bound was computed using a method similar to Agresti–Coull for extreme proportions (see Appendix B for more information).

Use of Specific Flavor Types among Middle and High School Students

Students who used a flavored tobacco product in the last 30 days were asked to indicate the flavor type they used most often. Possible flavor types included *fruit or sweet*, *mint*, *liquor, tobacco* (for e-cigarettes only), and *other*. Due to the small sample size, *liquor* and *other* flavors were combined.

As shown in Table 13, with the exception of smokeless tobacco, *fruit or sweet* flavors were by far the most popular. The majority of students who used e-cigarettes and combustible tobacco reported using *fruit or*

sweet flavors (61.4% and 57.4%, respectively). *Mint* was the most popular flavor among current smokeless tobacco users (82.9%).

Table 13. Types of flavor among those who currently used flavored products

	N	Fruit or sweet % (95% CI)	Mint % (95% CI)	Tobacco* % (95% CI)	Other % (95% CI)
E-cigarettes	28	61.4 (37.4-85.4)†	10.7 (0.0-23.5)†	13.8 (0.0-29.5)†	14.1 (7.7-20.6)
Combustible tobacco	19‡	57.4 (35.7-79.2)	26.7 (2.5-50.9)†	--	15.9 (7.2-24.5)
Smokeless	11	8.7 (0.0-19.7)†	82.9 (61.5-100.0)†	--	8.3 (0.0-18.8)†

Note: Combustible tobacco includes cigarettes, LCC, big cigars, and hookah. Due to varying estimates for individual tobacco products, interpret with caution.

*Tobacco was included as a flavor option for e-cigarettes only.

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

‡The sample size for this category is greater than the actual number of students who used combustible tobacco products as some students used more than one combustible tobacco product.

Student Opinions on Flavored Tobacco Products

Table 14 presents students' agreement or disagreement with the statement that the tobacco industry targets youth by advertising flavored products. Middle and high school students were significantly more likely to agree than disagree that the tobacco industry targets youth by advertising flavored products (59.3% and 20.8%, respectively).

Students were also asked whether there should be a ban on the sale of flavored tobacco products in their community. Table 14 presents students' agreement or disagreement with a flavored tobacco ban. Approximately one-half of students agreed that there should be a ban on the sale of flavored tobacco products (49.7%), which was significantly more than those who disagreed (28.7%).

Table 14. Perceptions of flavored tobacco sales and advertising

	N	Agree % (95% CI)	Disagree % (95% CI)	I prefer not to answer % (95% CI)
Tobacco companies target people my age by advertising flavored tobacco products	533	59.3 (53.6-65.0)	20.8 (17.3-24.3)	19.9 (15.4-24.3)
There should be a ban on the sale of flavored tobacco products in our community	532	49.7 (45.6-53.8)	28.7 (26.0-31.4)	21.6 (16.3-26.8)

CHAPTER 3 – Environmental Influences

Highlights

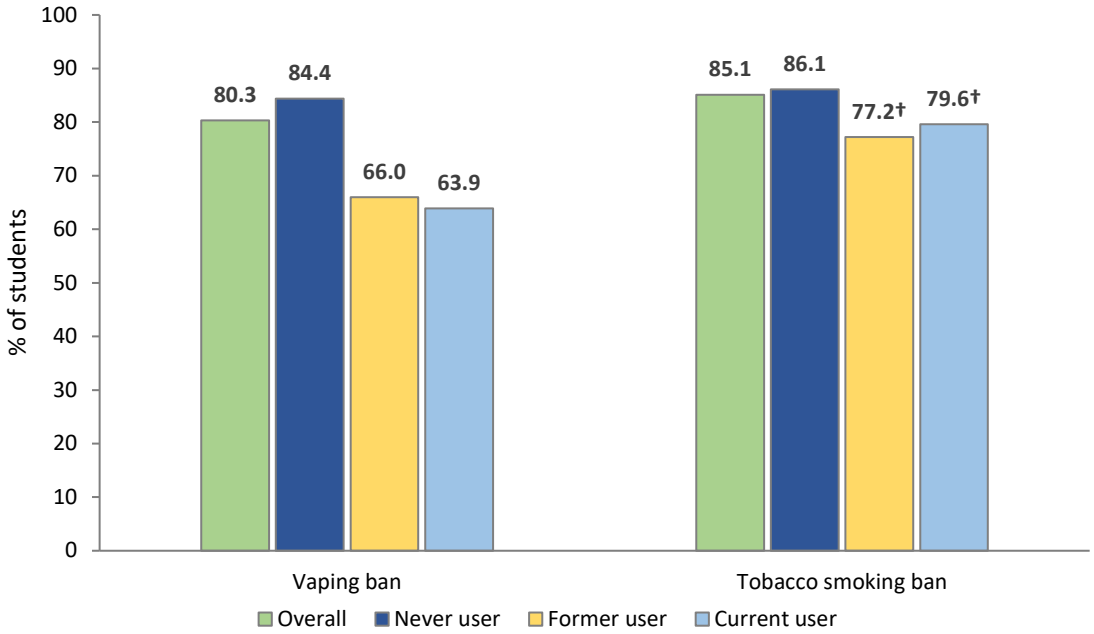
- Most students in Colusa County reported living in a home that had complete bans on vaping (80.3%) and smoking (85.1%).
- More students reported being exposed to secondhand smoke in a room (24.5%) than in a car (14.4%) in the last 30 days.
- Nearly three in five students agreed that secondhand vapor was harmful (57.7%).
- More than half of students had been exposed to cigarette-related ads (63.7%) and the majority of those students (55.8%) reported seeing ads that discouraged their use.
- The majority of students (76.5%) who visited convenience stores in the last 30 days reported seeing flavored tobacco ads or promotions.

Home Bans for Vaping and Smoking among Middle and High School Students

Home bans indicate whether the student's home environment explicitly discourages smoking tobacco (cigarettes and LCC) and vaping e-cigarettes. Using two separate questions, students were asked to indicate which statement best described the rules about vaping e-cigarettes or smoking tobacco products in their home (see Definitions Used in this Report). Overall, the vast majority of students had a complete home ban on vaping and on smoking (80.3% and 85.1%, respectively).

Figure 4 presents the prevalence of complete home bans on vaping and smoking by vaping and smoking status. Vaping status (never, former, or current vaper) was determined by students' use of e-cigarettes, while smoking status was determined by students' use of cigarettes and LCC. Figure 4 shows that more never vapers reported having a complete home ban on vaping relative to former and current vapers (84.4%, 66.0%, and 63.9%, respectively). More than three-quarters of students for each smoking use status had complete home bans on smoking.

Figure 4. Prevalence of complete home bans on e-cigarette vaping and tobacco* smoking by use status



*Tobacco smoke and corresponding use status were based on two products: cigarettes and LCC.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 15. Prevalence of complete home bans on e-cigarette vaping and tobacco* smoking by use status

Vaping Ban	N	Complete home ban % (95% CI)
Overall	479	80.3 (78.2-82.5)
Never vapers	364	84.4 (82.9-85.8)
Former vapers	71	66.0 (58.0-74.1)
Current vapers	25	63.9 (50.4-77.4)
Smoking* Ban	**N**	**% (95% CI)**
Overall	481	85.1 (81.8-88.3)
Never smokers	424	86.1 (84.3-88.0)
Former smokers	39	77.2 (53.4-100.0)†
Current users	15	79.6 (65.6-93.7)†

*Tobacco smoke and corresponding use status were based on two products: cigarettes and LCC.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 16 provides data on the rates of complete home bans on vaping and smoking by race/ethnicity. Across racial/ethnic groups, reports of complete home bans on vaping and smoking were high. Students from the Other racial/ethnic group were significantly less likely to have a complete home vaping ban than White and Hispanic students (64.5%, 82.1%, and 83.7%, respectively).

Table 16. Prevalence of complete home bans on e-cigarette vaping and tobacco* smoking by race/ethnicity

	Vaping ban		Smoking ban	
	N	Overall % (95% CI)	N	Overall % (95% CI)
Overall	479	80.3 (78.2-82.5)	481	85.1 (81.8-88.3)
White	106	82.1 (79.1-85.2)	108	87.2 (84.3-90.2)
Hispanic	301	83.7 (82.6-84.7)	301	87.1 (82.6-91.5)
Other	65	64.5 (55.7-73.3)	65	73.7 (64.4-83.0)

Note: Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.
*Two products: cigarettes and LCC

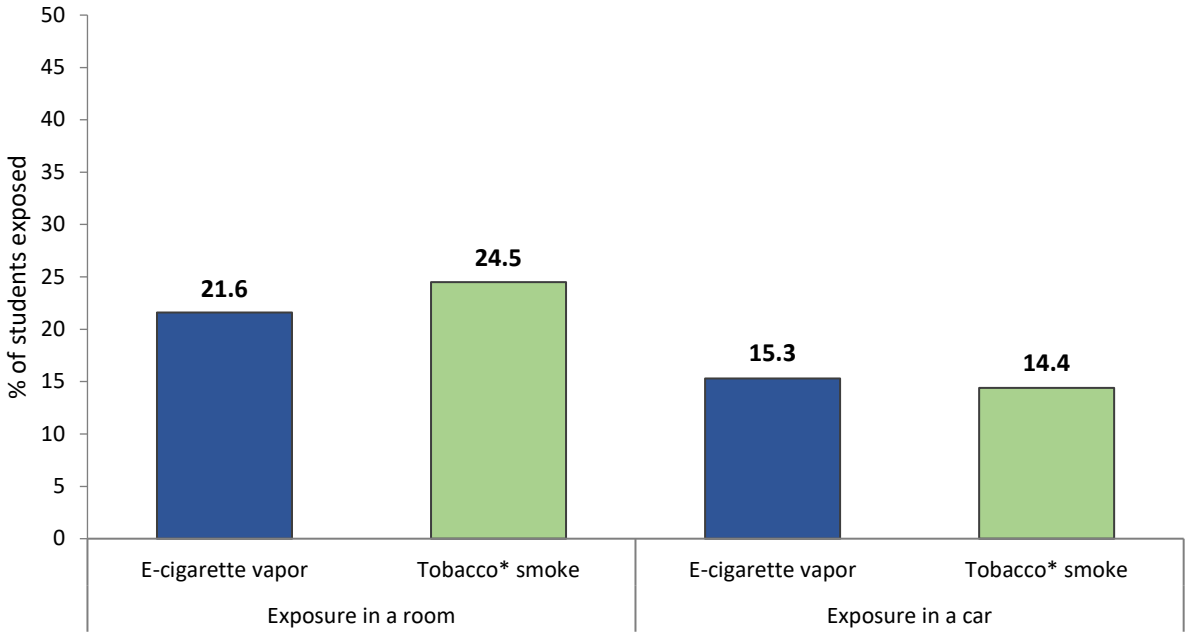
Exposure to Secondhand Vapor and Smoke among Middle and High School Students

Secondhand exposure to tobacco products is a priority issue in Colusa County, with a current initiative focused on creating more smoke-free spaces in the county by partnering with community businesses.[4] As this initiative does not extend to private property, it is interesting to note that nearly two in five students (38.1%) had still been exposed to secondhand e-cigarette vapor or tobacco smoke, in a room or in a car, within the last 30 days (data not shown).

The 2017–18 CSTS asked students about secondhand exposure to vapor in a room: "In the last 30 days, how many days were you in a room when someone was using an e-cigarette (including e-hookah and hookah pens)?" Another question asked about secondhand exposure to tobacco smoke in a room: "In the last 30 days, how many days were you in a room when someone was smoking a cigarette, little cigar or cigarillo?" Students were asked whether they had been exposed in a car in the same way.

As shown in Figure 5 and Table 17 at least one-fifth of students reported being exposed to e-cigarette vapor or tobacco smoke in a room (21.6% and 24.5%, respectively). There were no significant differences between exposure to e-cigarette vapor in a room (21.6%) or in a car (15.3%); however, there were significantly more students who were exposed to smoke in a room (24.5%) than in a car (14.4%).

Figure 5. Prevalence of exposure in the last 30 days to e-cigarette vapor and tobacco* smoke in a room and car



*Two products: cigarettes and LCC

Table 17. Prevalence of exposure in the last 30 days to e-cigarette vapor and tobacco* smoke in a room and car

	E-cigarette vapor		Tobacco* smoke	
	N	% (95% CI)	N	% (95% CI)
Exposure in a room	504	21.6 (16.3-26.8)	491	24.5 (22.6-26.5)
Exposure in a car	506	15.3 (12.3-18.4)	503	14.4 (12.1-16.7)

*Two products: cigarettes and LCC

Student Opinions on Secondhand Exposure to E-cigarette Vapor

Table 18 shows that the majority of middle and high school students (57.7%) agreed that secondhand e-cigarette vapor is harmful to the health of people who breathe it, which was significantly higher than those who did not think e-cigarette vapor was harmful and those who preferred not to answer (22.8% and 19.5%, respectively).

Table 18. Students' perceived harm of secondhand e-cigarette vapor

		Harmful	Not harmful	I prefer not to answer
	N	% (95% CI)	% (95% CI)	% (95% CI)
Overall	532	57.7 (53.5-61.9)	22.8 (20.3-25.2)	19.5 (15.1-24.0)

Exposure to Tobacco Ads among Middle and High School Students

Students were asked whether they had seen ads for three tobacco products (e-cigarettes, cigarettes, and LCC) within the last 30 days. Table 19 shows students' overall exposure to tobacco-related ads by tobacco product. Most students had been exposed to cigarette-related (63.7%) and e-cigarette-related (51.3%) ads. Only three in ten students reported seeing ads relating to LCC (30.5%).

Table 19. Exposure to tobacco* ads in the last 30 days by tobacco product

	Exposure to tobacco-related ads N=511 % (95% CI)
E-cigarettes	51.3 (42.8-59.8)
Cigarettes	63.7 (59.6-67.8)
LCC	30.5 (26.2-34.7)

*Three products: e-cigarettes, cigarettes, and LCC.

Students who reported seeing e-cigarette, cigarette, or LCC ads within the last 30 days were asked whether those ads *promoted*, *discouraged*, or *neither promoted nor discouraged* use of that product. Those students were also given the response option *I don't know*. Table 20 shows that more students reported seeing ads that discouraged tobacco use (37.0%, 55.8%, 39.0%, for e-cigarettes, cigarettes, and LCC respectively). Very few students reported seeing ads that were neutral for each product. Notably, many students who saw LCC ads did not know whether they promoted or discouraged LCC use (28.9%).

Table 20. Exposure to perceived types of tobacco ads in the last 30 days by tobacco product

		Exposure to...			
	N	Pro-tobacco ads % (95% CI)	Anti-tobacco ads % (95% CI)	Neutral ads % (95% CI)	I don't know % (95% CI)
E-cigarettes	250	32.8 (21.1-44.5)	37.0 (18.9-55.2)	9.7 (3.6-15.9)†	20.4 (18.0-22.8)
Cigarettes	321	23.3 (16.9-29.8)	55.8 (49.5-62.1)	6.5 (4.1-8.9)	14.3 (13.0-15.6)
LCC	148	23.9 (15.6-32.2)	39.0 (29.5-48.6)	8.1 (5.0-11.2)	28.9 (25.0-32.9)

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Exposure to Flavored Tobacco Ads at Convenience Stores or Small Markets among Middle and High School Students

Table 21 presents data on the prevalence of students who visited convenience stores or small markets in the last 30 days. Three-quarters of students had been to a convenience store or small market (75.5%) within the last 30 days.

Table 21. Prevalence of students who visited convenience stores or small markets in the last 30 days by the number of days they visited those locations

	Visited convenience stores or small markets N=502 % (95% CI)
0 days	24.5 (20.6-28.4)
1-5 days	32.5 (29.9-35.2)
6-30 days	43.0 (38.2-47.8)

Students in Colusa County who visited convenience stores or small markets in the last 30 days were asked, "You mentioned earlier that you had visited convenience stores or small markets in the last 30 days. When you did, how often did you see ads or promotions for FLAVORED tobacco products?" Response options were separated into no exposure (*Never*), infrequent exposure (*Rarely* or *Sometimes*), and frequent exposure (*Most of the time* or *Always*).

As shown in Table 22, only one-quarter (23.5%) of students who visited convenience stores or small markets in the past 30 days reported no exposure to flavored tobacco ads. By contrast, more than one-half (52.7%) reported infrequent exposure and one-quarter (23.8%) reported frequent exposure. Significantly more students reported frequent exposure to flavored tobacco ads or promotions who visited convenience stores or small markets on 6–30 days than on 1–5 days (28.4% and 17.9%, respectively).

Table 22. Proportion of students exposed to flavored tobacco ads or promotions at convenience stores or small markets by the number of days they visited those locations within the last 30 days

Visited convenience stores or small markets	N	No exposure to flavored tobacco ads and promotions % (95% CI)	Infrequent exposure to flavored tobacco ads and promotions % (95% CI)	Frequent exposure to flavored tobacco ads and promotions % (95% CI)
Overall	338	23.5 (18.0-29.0)	52.7 (49.5-55.8)	23.8 (20.9-26.8)
1-5 days	147	28.3 (19.1-37.4)	53.8 (47.4-60.2)	17.9 (13.8-21.9)
6-30 days	191	19.8 (16.9-22.8)	51.8 (49.4-54.1)	28.4 (26.1-30.7)

CHAPTER 4 – Access to Tobacco Products

Highlights

- Three in five middle and high school students who were current vapers reported getting e-cigarettes from social sources (60.9%).
- One in six students (17.1%) had been offered e-cigarettes or combustible tobacco (cigarettes, LCC, and hookah) in the last 30 days, including 9.7% of never users.
- Approximately two in five students thought it would be easy to get e-cigarettes (43.4%), cigarettes (38.2%), and smokeless tobacco (39.1%), with 57.8% believing it would be easy to obtain any one of those products.

Access to and Offers of Tobacco Products

Age restrictions are intended to make it difficult for students to access tobacco products. The legal age to purchase tobacco products in California is 21 years old. Because of this, it is important to monitor how underage students obtain tobacco products, particularly through social sources. This chapter presents data on how students access e-cigarettes and on student offers of tobacco products. Students who were current users of e-cigarettes were asked whether they pay for their own e-cigarettes (or e-liquid). They were then asked subsequent questions on how they obtained the products. Offers were measured by use status (e.g., never, former, and current users) and across demographics based on tobacco product.

Acquisition of E-Cigarettes among Middle and High School Students

Table 23 and 24 describe how students usually obtained e-cigarettes (or e-liquid). Of 33 current e-cigarette users, 20 students (weighted percentage, 60.9%) reported obtaining their e-cigarettes from social sources without paying for them while 13 (weighted percentage, 39.1%) reported purchasing their e-cigarettes.

Table 23 presents data for students who usually obtained their e-cigarettes (or e-liquid) through social sources (N=20). About two in five of these students (40.7%) reported being offered e-cigarettes. Of note, a high percentage of these students did not report how they obtained e-cigarettes (39.7%).

Table 23. Acquisition of e-cigarettes (or e-liquid) among current e-cigarette users by social source

	Current e-cigarette users N=20
Did not pay for own e-cigarettes (or e-liquid)	**% (95% CI)**
Someone else offers them to me	40.7 (12.7-68.7)†
I ask someone for them	14.8 (3.9-25.8)†
I get them some other way	4.8 (0.0-12.9)†
Declined to Answer	39.7 (23.7-55.6)

Note: Data are based on a subset of current e-cigarette users who reported that they usually do not pay for their own e-cigarettes (60.9%, n=33).

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Table 24 presents data for students who usually purchased their e-cigarettes or e-liquid (N=13). Almost half of these students reported buying e-cigarettes from someone else (45.4%). A smaller group of

students (16.1%) reported buying e-cigarettes from the internet (including apps). Again, a high percentage of students did not report how they bought e-cigarettes (22.7%).

Table 24. Acquisition of e-cigarettes (or e-liquid) among current e-cigarette users by purchase source

	Current e-cigarette users N=13
Paid for own e-cigarettes (or e-liquid)	**% (95% CI)**
I buy them from the store myself	0.0 (0.0-5.8)‡
I buy them from someone else	45.4 (29.9-61.0)
Internet (including apps)	16.1 (0.0-33.1)†
Other	15.7 (0.0-36.9)†
Declined to Answer	22.7 (11.7-33.7)

Note: Data are based on a subset of current e-cigarette users who reported that they usually pay for their own e-cigarettes (39.1%, n=33).

†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

‡Confidence interval bound was computed using a method similar to Agresti–Coull for extreme proportions (see Appendix B for more information).

Offers of Tobacco Products among Middle and High School Students

The 2017–18 CSTS assessed whether high school students were offered various tobacco products in the last 30 days by asking, "In the last 30 days, has anyone offered you… ?" followed by a list of tobacco products. Overall, over one-sixth of students (17.1%) in Colusa County were offered a tobacco product in the last month (Table 25). Significantly more current users (62.3%) reported tobacco product offers relative to former (26.3%) and never (9.7%) users. The overall prevalence of offers of specific tobacco products reflects the overall prevalence of use of each tobacco product: more students reported being offered e-cigarettes (the most prevalent product used by high school students) relative to cigarettes, LCC, or hookah.

Table 25. Prevalence of offers of tobacco products in the last 30 days by use status

	Overall		Never user of the product		Former user of the product		Current user of the product	
	N	**% (95% CI)**	**N**	**% (95% CI)**	**N**	**% (95% CI)**	**N**	**% (95% CI)**
Any of the below	533	17.1 (11.4-22.8)	394	9.7 (5.4-14.0)	94	26.3 (18.0-34.7)	45	62.3 (55.6-68.9)
E-cigarettes	526	14.0 (8.1-19.8)	389	6.5 (2.8-10.3)	78	24.2 (15.0-33.4)	33	70.0 (61.5-78.6)
Cigarettes	529	4.9 (3.7-6.1)	480	3.1 (2.2-4.0)	27	18.6 (7.7-29.5)	8	61.7 (51.2-72.3)
LCC	528	2.4 (1.4-3.5)	479	2.1 (1.1-3.1)	25	0.0 (0.0-1.4)‡	11	27.6 (15.9-39.3)
Hookah	531	4.7 (3.9-5.6)	484	3.1 (2.2-4.0)	19	21.3 (9.0-33.7)	9	44.9 (30.8-58.9)

‡Confidence interval bound was computed using a method similar to Agresti–Coull for extreme proportions (see Appendix B for more information).

Offers of Tobacco Products by Demographics among Middle and High School Students

Table 26 shows the prevalence of offers of tobacco products by demographics. Offers of tobacco products were generally similar across gender and race/ethnicity. Students in 8th grade were less likely to report being offered any tobacco product compared to those in 12th grade (10.6% vs. 20.8%, respectively).

Table 26. Prevalence of offers of tobacco* product in the last 30 days by gender, race/ethnicity, and grade

	Overall	
	N	**% (95% CI)**
Overall	533	17.1 (11.4-22.8)
Gender		
Male	249	15.2 (10.1-20.3)
Female	219	17.7 (12.1-23.3)
Other	59	23.3 (11.7-34.9)
Race/Ethnicity		
White	109	18.1 (9.5-26.8)
Hispanic	327	15.7 (10.1-21.4)
Other	88	21.5 (13.6-29.5)
Grade		
Grade 8	217	10.6 (8.2-13.1)
Grade 10	188	22.1 (13.0-31.2)
Grade 12	128	20.8 (17.0-24.6)

Notes: Gender Other = identified in another way and declined to answer; Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.
*Four products: e-cigarettes, cigarettes, LCC, and hookah

Perceived Ease of Acquiring E-Cigarettes, Cigarettes, and Smokeless Tobacco among Middle and High School Students

Figure 6 and Table 27 present the perceived ease of acquiring e-cigarettes, cigarettes, and smokeless tobacco among middle and high school students in Colusa County. There were no significant difference in students believing that it would be *somewhat easy* or *very easy* to get e-cigarettes (43.4%), cigarettes (38.2%), or smokeless tobacco (39.1%).

Perceived ease of access differed significantly according to product use status, with more ever using students (both current and former users) than never using students perceiving that it would be *somewhat easy* or *very easy* to get e-cigarettes (81.6%, 66.1%, and 33.2%, respectively) and smokeless tobacco (100.0%, 77.3%, and 34.6%, respectively). However, there were no significant differences between current, former, and never users in perceived ease of acquiring cigarettes (36.4%, 48.0%, and 37.2%, respectively).

Figure 6. Perceived ease of acquiring e-cigarettes, cigarettes, and smokeless tobacco by use status

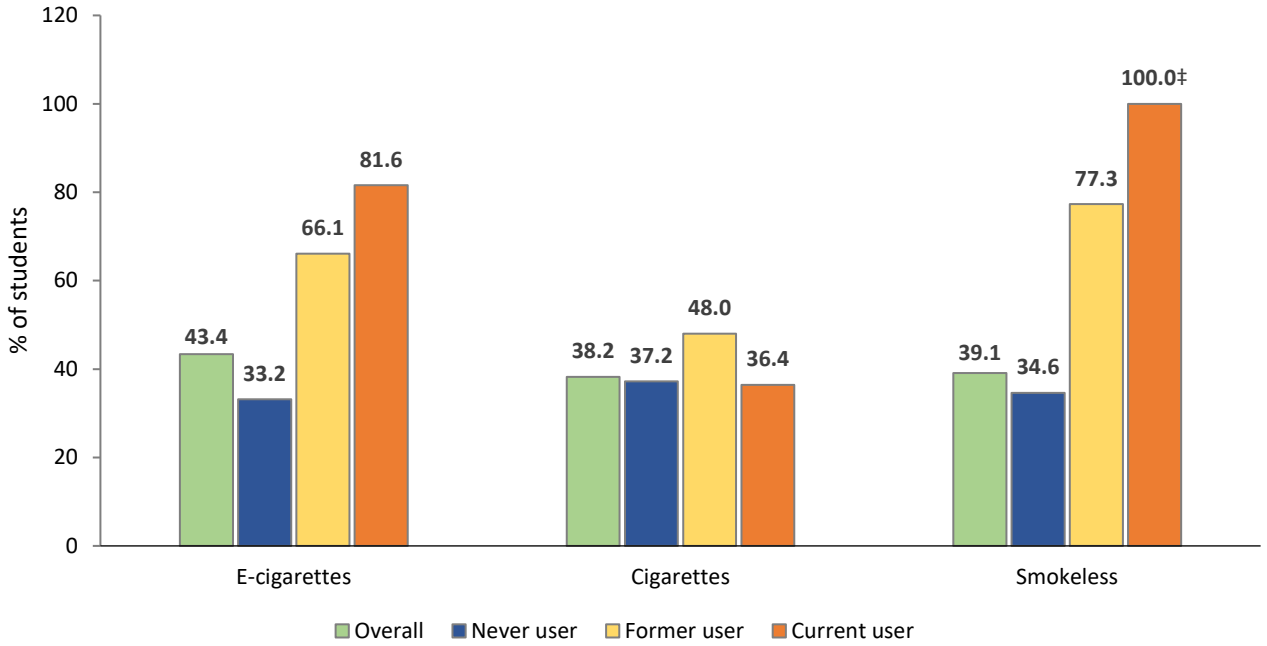


Table 27. Perceived ease of acquiring e-cigarettes, cigarettes, and smokeless tobacco by use status

	Overall		Never user of the product		Former user of the product		Current user of the product	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)
Any of the below	521	57.8 (50.1-65.6)	382	49.7 (42.8-56.7)	97	76.3 (71.9-80.8)	40	87.6 (80.5-94.6)
E-cigarettes	499	43.4 (34.7-52.1)	369	33.2 (25.7-40.8)	74	66.1 (59.9-72.3)	32	81.6 (72.0-91.2)
Cigarettes	498	38.2 (31.9-44.5)	452	37.2 (30.5-44.0)	27	48.0 (40.2-55.8)	8	36.4 (13.6-59.2)
Smokeless	449	39.1 (30.2-48.0)	408	34.6 (26.9-42.3)	18	77.3 (68.5-86.1)	9	100.0 (96.1-100.0)‡

‡Confidence interval was computed using a method similar to Agresti–Coull for extreme proportions (see Appendix B for more information).

CONCLUSION

The smoking prevalence for Colusa County youth, like the rest of California, has reached a historic low. Only 1.5% of middle and high school students in Colusa County smoked cigarettes in 2017–18. Few would have imagined such a low prevalence only a few years ago. In fact, the rate of using any one of the combustible tobacco products was very low (none is higher than 3.0%). As far as the numerical goal for tobacco control is concerned, the prevalence for each of the combustible tobacco products among middle and high school students in Colusa County has dropped to the level accepted by many as an endgame number.[5] There is cause for celebration.

The low prevalence suggests that the social norm for cigarette smoking among teens has collapsed. Smoking is simply no longer a cool thing to do. The anti-smoking campaign in California, both at the statewide level and at the Colusa County level, has been very successful in this regard.

We still have to be vigilant in that many students who have not used tobacco remain susceptible to future use. Many adults in the county are still smokers, which contributes to the fact that almost a quarter of students reported being exposed to secondhand smoke. Furthermore, many students were offered tobacco products even though they were not users themselves. A large proportion of students considered it easy to acquire tobacco products, if they wanted them.

The biggest concern, of course, is the rising popularity of e-cigarettes among adolescents. Current e-cigarette use among middle and high school students in Colusa County in 2017–18 was 6.6%, which accounts for the majority of all tobacco use (9.8%). Moreover, a significant proportion of middle and high school students reported that someone had offered them e-cigarettes in the last 30 days. Being offered these products through a youth's social framework could increase the rate of experimentation or the rate of transition from experimentation to regular use. The social norm for vaping is clearly different from that of cigarette smoking. Vaping is popular, and the novel devices are attractive to teens. Many have experimented with these devices, and many who have not are susceptible to trying them in the future.

The campaign against the use of tobacco products, therefore, should focus on vaping. New interventions must be developed to counter the influence that comes from students' immediate environment as well as the influences from the tobacco and vaping industry. The social-norm approach, which has been successfully employed in anti-smoking campaigns, may be useful in reducing vaping among teens as well. New strategies may also be necessary given that the products and the industry itself continue to evolve.

Of special concern is the intersection of vaping nicotine and vaping marijuana. The marijuana use prevalence is higher than that for e-cigarettes among middle and high school students in Colusa County (9.2%; see Appendix A). Even though most teens who currently use marijuana are smoking it, the method of use can change quickly given the appeal of new vaping devices for youth and those devices' ability to administer a variety of substances. The public health community has to be particularly vigilant in monitoring the impact of new vaping devices on the use of both nicotine and marijuana among schoolchildren.

In summary, Colusa findings from the 2017–18 CSTS offer much reason for celebration, while also raising new questions about the next phase of the public health campaign. The very low prevalence for all combustible tobacco products shows that it is possible to reduce tobacco use to nearly zero, even though it took many years. Vaping does present a new challenge, and the public health community will have to be creative in developing new strategies in order to succeed in the next phase of tobacco control.

RESOURCES

- Find the *California Student Tobacco Survey Biennial Report 2017-2018* on the California Department of Public Health, California Tobacco Control Branch's website: https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CTCB/Pages/Reports.aspx.
- Contact Colusa County's Tobacco Use Prevention Education (TUPE) Coordinator for local resources: www.cde.ca.gov/ls/he/at/countycoordinators.asp.
- View anti-tobacco commercials at www.tobaccofreeca.com/resources.
- Connect students to the California Smokers' Helpline (1-800-NO-BUTTS) for free, evidence-based telephone counseling. Help is available for tobacco users and the people who care about them. Visit www.nobutts.org for more information.
- Download free, print-ready tobacco education materials through the Tobacco Education Clearinghouse of California at: www.tecc.org.

APPENDIX A – Marijuana

Highlights

- 22.6% of students in Colusa County reported having tried marijuana, while 9.2% reported using it in the last 30 days.

Marijuana Use among Middle and High School Students

Marijuana is described in the 2017–18 CSTS as "Marijuana (including blunts and edibles): Commonly known as cannabis, weed, pot, hash, grass, THC, or CBD. It can be smoked (joint, blunt, bong), vaped, or eaten (baked goods, candies)."

Table 28 presents the prevalence of ever and current marijuana use among students by demographic characteristics. In Colusa County, the rates of ever using marijuana (22.6%) and currently using marijuana (9.2%) are similar to the rates of ever and currently using any tobacco product (28.7% and 9.8%, respectively).

Male and female students had similar marijuana use rates (8.6% and 5.9%, respectively). Notably, students who identified their gender in another way or declined to report their gender (Other) had a significantly higher current marijuana use rate (20.0%). Racial/ethnic subgroups had similar use rates. The prevalence of marijuana use was higher among 10th and 12th grade students (10.5% and 17.3%, respectively) compared to 8th grade students (3.4%).

Table 28. Prevalence of marijuana use by gender, race/ethnicity, and grade

	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	508	22.6 (14.6-30.6)	9.2 (5.5-12.9)
Gender			
Male	237	20.4 (9.1-31.7)	8.6 (2.6-14.6)†
Female	207	20.4 (13.9-27.0)	5.9 (3.5-8.3)
Other	57	35.3 (28.4-42.3)	20.0 (15.4-24.6)
Race/Ethnicity			
White	107	20.9 (6.0-35.8)†	8.6 (1.7-15.5)†
Hispanic	308	20.9 (14.2-27.6)	7.6 (4.1-11.2)
Other	83	29.0 (19.9-38.2)	14.5 (9.9-19.1)
Grade			
Grade 8	212	11.4 (6.0-16.7)	3.4 (1.5-5.3)
Grade 10	171	26.1 (19.9-32.4)	10.5 (5.7-15.2)
Grade 12	125	36.7 (17.3-56.0)	17.3 (8.6-26.0)

Notes: Gender Other = identified in another way and declined to answer; Race/Ethnicity Other = Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multiple, Other, and declined to answer.
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

APPENDIX B – Survey Methodology

Survey Administration

The California Student Tobacco Survey (CSTS) is funded by the California Department of Public Health (CDPH) and has been conducted biennially since 2001–02. The 2015–16 CSTS was the first to be administered by the University of California, San Diego (UCSD). For this 2017–18 CSTS, Local Lead Agencies (LLA) of the California Tobacco Control Program (CTCP) were given the opportunity to subcontract with UCSD to analyze survey data within their health jurisdiction.

This appendix provides a brief overview of survey methodology for the 2017–18 CSTS specific to Colusa County. Statewide survey methods can be found in the *Technical Report on Analytical Methods and Approaches Used in the California Student Tobacco Survey 2017–18* by S-H. Zhu, et al.[6] Additional details of the statewide report can be found in the *2017–18 California Student Tobacco Survey* Report by S-H. Zhu, et al.[7]

Survey Content

The survey questionnaire was designed to assess use of, knowledge of, and attitudes toward cigarettes and emerging tobacco products (e.g., e-cigarettes, hookah, cigarillos). It also included questions about use of and attitudes toward marijuana and alcohol. The survey contained 134 questions, including topics such as: awareness of and use of different tobacco products; history and patterns of tobacco use; tobacco purchasing patterns; knowledge of and participation in school tobacco prevention or cessation programs; perceptions of tobacco use (i.e., social norms); awareness of advertising; and susceptibility to future tobacco use. Colusa County augmented the survey with additional county-specific questions (see Appendix C).

Participation

To increase participation in the CSTS, schools were provided a $500 Amazon gift card for administering the survey. Participating schools also received a brief report highlighting their school's results. Teachers primarily acted as proctors for the survey, and, in some cases, other school staff proctored. UCSD provided proctors for schools that required additional support. Teachers and proctors were provided with directions for administering the survey. UCSD staff were available to answer questions from teachers and proctors.

The 2017–18 CSTS was administered online. The online survey took between 15 to 25 minutes to complete and included programmed skip logic to reduce participant burden. In other words, students were only asked survey questions based on their previous answers, allowing them to skip questions not relevant to their experiences. Answers were not mandatory, although an error message of "Oops, you didn't answer" appeared if the question went unanswered. The student could move forward and skip the question. The 2017–18 CSTS also included the response option *I prefer not to answer* for all questions.

Student participation was voluntary and anonymous. Consent procedures were consistent with school district guidelines. All schools used the passive consent protocol, in which parents can opt their children out of the survey if they did not want them to participate. Consent forms were distributed to parents via

the students one week before the survey. Spanish forms were available as needed. In addition to obtaining consent from parents, students were also asked to give their assent to participate in the survey.

Survey Sample

Table 29 provides information about the number of schools and students that participated in the 2017–18 CSTS for each of the three grades. The total sample included 557 students from six schools. Grades 10 and 12 are considered high school, and grade 8 is considered middle school.

Table 29. Number of schools and students participating, Colusa County middle schools vs. high schools

	Middle School (8th)	High School (10th & 12th)	Total
Number of schools	3	3	6
Number of students	225	442	557

It should be noted that all schools in the statewide sample administered the survey in the 2017–18 academic year; however, two schools non-randomly selected by Colusa County's Tobacco Education Program surveyed in the 2018–19 academic year. This was due to the delay in establishing a subcontract between UCSD and the County, which hindered recruitment efforts. To ensure county-level representation, we offered schools the opportunity to administer the 2017–18 CSTS to their students in the 2018–19 academic year. However, due to the evolving climate of youth tobacco use, variability of student data between the two academic years may affect results provided in this report. Additionally, data are not entirely comparable with other nationwide or statewide results that surveyed in the 2017–18 school year.

Sampling Strategy

The statewide sampling strategy used a two-stage sampling design, in which stage 1 was the random sampling of schools within regions and stage 2 was the sampling of classrooms within schools. Sampling used the probability proportional to size (PPS) method and stratified by region with oversampling of less densely populated regions, African American students, and schools that received Tobacco-Use Prevention Education (TUPE) program funding.

Colusa County did not defer to the 2017–18 CSTS sampling strategy for this report. This is because the county was not considered its own region; it was augmented with other counties to create a region (Region 1). Therefore, we surveyed four schools that were CSTS-eligible and two schools that were not CSTS-eligible (due to small school enrollment size). Like the statewide survey, participating middle schools were encouraged to survey all 8th graders, while high schools were encouraged to survey all 10th and 12th graders.

Analysis

Colusa County surveyed an adequate sample size to allow for county-level data. All estimates include 95% confidence intervals. The 2017–18 CSTS provided the option *I prefer not to answer* for all questions. Rates of endorsement varied considerably. It is important to note that it appears as though selection of this response option was not random; questions that were difficult to understand or more personal in nature tended to have higher endorsement of this response option. Respondents that declined to answer also tended to have high rates of tobacco use.

The CSTS design utilized stratified random sampling and proper weighting to provide stable statewide prevalence rates. Colusa County's Tobacco Education Program non-randomly selected schools within their jurisdiction not consistent with the statewide sampling strategy. The estimates for students in Colusa County are weighted by students' response rates by grade, and variances have been adjusted for clustering by school. In addition, as more than 5% of the county students participated in the survey, a finite population correction was applied in the analyses. This correction will reduce the variance, resulting in narrower confidence intervals for the estimates. In cases of extreme proportions (e.g., 0% or 100%), a method similar to Agresti–Coull was applied to calculate those confidence intervals.[8,9] This method provides an approximation of the lower and upper limits of the estimate's confidence interval of a proportion. All estimates throughout this report must be interpreted with caution.

Race/Ethnicity

The racial/ethnic background of students was determined using two primary questions. The first asked about Spanish or Hispanic (Latino) origin (i.e., ethnicity), and the second asked participants to indicate how they describe themselves (i.e., race) by marking all that apply: *American Indian or Alaska Native*, *Asian*, *Black or African American*, *Native Hawaiian or Other Pacific Islander*, *White*, or *Other*. The *Other* ethnic category included non-standard entries (such as Middle Eastern or Italian). Students selecting multiple races were grouped as *Multiple*. The response option *I prefer not to answer* was also provided for both questions. Due to the small sample size of *Native Hawaiian or Other Pacific Islander*, *American Indian or Alaska Native*, *Black or African American*, *Asian*, *Multiple*, *Other*, and *I prefer not to answer* groups, they were combined to form the *Other* category. In line with other surveys, students identifying as *Hispanic* were labeled as such regardless of the other races selected. As a result, three racial/ethnic groups were included in tables that presented race/ethnicity: *White*, *Hispanic*, and *Other*.

With the exception of the *I prefer not to* answer response option, race/ethnicity categories of the CSTS are similar to those used by the California Department of Education (CDE), allowing us to compare the prevalence of each race/ethnicity (Table 30). In many cases, the prevalence of each race/ethnicity is similar between the CSTS and CDE enrollment data. Of note, the prevalence of *Multiple* race is far higher in the CSTS than as reported by CDE (5.1% and 0.5%, respectively). One possible reason for the difference is that CSTS is based on student self-reporting, whereas the CDE is based on parent reporting of the child's race/ethnicity. Students and parents may not have the same perspective regarding multi-racial identification. Because of the differences in how race/ethnicity was identified between the CSTS and CDE, student responses were not weighted by race/ethnicity. Given the increasing number of people who identify themselves as two or more races[12], the issue of how to analyze race/ethnicity data will continue to be relevant for the CSTS.

Table 30. Prevalence of race/ethnicity categories in the CSTS and CDE enrollment data

	N=545	CSTS Sample (%)	CDE Enrollment (%)
NH-White	111	20.4	22.1
NH-Black	3	0.6	0.6
Hispanic	336	61.7	74.0
NH-Asian	0	0.0	1.2
NH-AI/AN	5	0.9	1.4
NH-NHOPI	1	0.2	0.2
NH-Other	6	1.1	0.1
NH-Multiple	28	5.1	0.5
Declined to Answer	55	10.1	0.0

Note: Race/ethnicity data above are unweighted and should not be compared with weighted estimates throughout the report.
Abbreviations: NH = Non-Hispanic; AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

There are limitations with this method of classifying race/ethnicity. To provide a greater understanding of the impact of this classification of race/ethnicity, Table 31 compares how individuals are labeled using usual methods as to whether they endorse a given race at all. It is clear that students tend to endorse multiple responses and, in particular, underrepresented races. For example, under the usual classification of labeling, the number of Black students is three (i.e., non-Hispanic Black who did not endorse any other racial identity). However, there were fifteen times as many students who indicated their race was Black (including those who also indicated they were Hispanic or who selected at least one other racial category). This phenomenon is even more striking for Other (n=6 vs. 250, depending on the categorization strategy) and for American Indian or Alaska Natives (n=5 vs. 47).

Table 31. Prevalence of labeled and endorsed race/ethnicity

	Labeled		Endorsed	
	N=545	(%)	N=545	(%)
White	111	20.4	227	41.7
Black	3	0.6	45	8.3
Hispanic	336	61.7	336	61.7
Asian	0	0.0	18	3.3
AI/AN	5	0.9	47	8.6
NHOPI	1	0.2	18	3.3
Other	6	1.1	250	46.0
Multiple	28	5.1	0	0.0
Declined to Answer	55	10.1	97	18.2

Note: The percent in endorsed does not add up to 100% because students could select more than one response. Race/ethnicity data above are unweighted and should not be compared with weighted estimates throughout the report.
Abbreviations: NH = Non-Hispanic; AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

APPENDIX C – County-specific Questions

Participation

Colusa County was given the opportunity to augment the 2017–18 CSTS with additional questions. Six questions on tobacco use behavior, flavored tobacco perceptions, environmental influences, and access to tobacco products specific to the county's students were included by request. Respondents who had visited convenience stores were asked how often they saw flavored tobacco ads. All students were asked their perception of harm of secondhand vapor, whether students are targeted by the tobacco industry with flavored tobacco ads, whether there should be a ban on flavored tobacco sales in their community, and how easy they thought it would be to get smokeless tobacco. Students who were vapers were asked their motivation for using e-cigarettes. Students from all six schools were asked the county-specific questions. Surveys were available in English and Spanish, administered online, and used programmed skip logic to reduce participant burden.

Colusa County–specific Questions

Students from Colusa County schools received the following additional questions after the last question in the CSTS survey:

Colusa 1
You mentioned earlier that you had visited convenience stores or small markets in the last 30 days. When you did, how often did you see ads or promotions for FLAVORED tobacco products?

A. Never
B. Rarely
C. Sometimes
D. Most of the time
E. Always
F. I prefer not to answer

Colusa 2-4

How much do you agree with the following statements:	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	I prefer not to answer
a) Secondhand aerosol (i.e., vapor) from e-cigarettes (vapes) is harmful to the health of people who breathe it.	A.	B.	C.	D.	E.
b) Tobacco companies target people my age by advertising flavored products.	A.	B.	C.	D.	E.
c) There should be a ban on the sale of flavored tobacco products in our community.	A.	B.	C.	D.	E.

Colusa 5

If you wanted to get the following product, how easy would it be?	Very Difficult	Somewhat Difficult	Somewhat Easy	Very Easy	I prefer not to answer
a) Smokeless tobacco (chew, dip, snuff, or snus)	A.	B.	C.	D.	E.

Colusa 6

You said you used e-cigarettes in the last 30 days. Which is the MOST important reason you use e-cigarettes (vapes, hookah pens)?

A. To relax
B. Cloud competitions
C. It looks cool
D. To have a good time with my friends
E. I like the flavors
F. Because I am "hooked"
G. Just because
H. Other (open field)
I. I don't know
J. I prefer not to answer

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