



**Tobacco Use among High School Students in Santa Clara County:
Findings from the 2017–18 California Student Tobacco Survey**

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INTRODUCTION

According to the 2010 U.S. Census, Santa Clara County is the sixth-most populous county in California with almost two million residents.¹ The county has a rich culture with diverse ethnic groups; furthermore, it also has the highest concentration of Asian residents in the state. The three largest racial/ethnic groups are Asian (37.5%), Non-Hispanic White (31.6%), and Hispanic or Latino (25.6%).¹

A little over 20% of Santa Clara County's population is under the age of 18.¹ In the 2017–2018 school year, more than 180,000 middle and high school students attended 242 public schools from 31 districts.² The ethnic composition of these middle and high school student populations is also diverse. Again, the three largest racial/ethnic groups were Asian (34.4%), Non-Hispanic White (20.4%), and Hispanic or Latino (32.7%).²

This report presents the main results from a school-based survey: the 2017–2018 California Student Tobacco Survey (CSTS). It reports findings from the 2017–18 CSTS that are specific to Santa Clara County, including results based on the statewide survey questionnaire, as well as the additional questions specifically requested by Santa Clara County Public Health Department's Tobacco-Free Communities Program. This report is intended to serve a broad spectrum of the tobacco-control community. It aims to facilitate the understanding of adolescent tobacco use behavior in the current, rapidly changing tobacco landscape—and to assist the development of tobacco-control interventions to reduce tobacco use among youth in Santa Clara County.

EXECUTIVE SUMMARY

This report summarizes the main findings from the 2017–18 California Student Tobacco Survey (CSTS) for Santa Clara County. The survey was administered to Santa Clara County’s 8th, 10th, and 12th grade students from September 2017 to December 2018. Half of the schools represented were randomly selected in Santa Clara County to provide a representative sample for the State of California’s student tobacco prevalence. Conversely, the Tobacco-Free Communities Program in the County of Santa Clara Public Health Department non-randomly selected the other half of schools. Since the county did not defer to the statewide sampling strategy and non-randomly selected schools, every estimate must be interpreted with caution. The project was conducted by the University of California, San Diego. Throughout 2017–18, 6,669 students from 9 high schools and 9 middle schools in Santa Clara County participated in the survey.

The survey was designed to assess use of, knowledge of, and attitudes towards cigarettes and other tobacco products, including e-cigarettes, big cigars, little cigars or cigarillos (LCC), hookah, and smokeless tobacco. The survey included questions that assessed use of each tobacco product, susceptibility to future use, social and environmental exposure to products, and known covariates of use. The survey also included a few questions on marijuana use.

This report focuses on high school students (10th and 12th graders; 4,624 students). The results for 8th graders, which were sampled or specifically selected separately from 10th and 12th graders, are presented in Appendix A. Basic results for marijuana use among high school students are presented in Appendix B.

The following key findings are presented in this report:

Key Findings

Tobacco Use Behavior

- The smoking prevalence for high school students in Santa Clara has reached a historic low. In 2017–2018, only 1.4% of high school students in Santa Clara County reported currently using cigarettes. Use of other combustible tobacco products, like little cigars or cigarillos (LCC), big cigars, and hookah, was also very low (1.7%, 0.7%, and 0.8%, respectively).
- E-cigarettes were the most commonly used tobacco product among high school students in Santa Clara County (13.2%).
- Overall tobacco use was still relatively high among students in Santa Clara County (13.9%), which was driven mainly by the high rate of e-cigarette use.
- Approximately 15.8% of tobacco product users reported using two or more products.
- The majority of current tobacco users in Santa Clara County reported using a flavored tobacco product (82.3%). Flavored tobacco product use was high across all genders, races/ethnicities, and grades. *Fruit or sweet* was the most popular reported flavor for most tobacco products.

Risk Factors for Tobacco Use

- Among high school students in Santa Clara County who had never used a tobacco product, two in five (40.1%) were susceptible to future use if offered by a best friend. Susceptibility was even higher among those who reported having friends who used tobacco products.
- Over one in four (28.0%) high school students in Santa Clara County reported being offered e-cigarettes, cigarettes, LCC, or hookah in the last 30 days. Over one in ten (13.5%) students who had never used these products reported being offered one in the last 30 days.
- Less than half of high school students in Santa Clara County who used tobacco products reported paying for their own e-cigarettes (45.4%) and cigarettes (47.4%). Social sources were more common. Many high school students perceived that it would be easy to get e-cigarettes (63.2%) or cigarettes (47.5%) if they wanted them.

Exposure to Tobacco Use

- The vast majority of high school students in Santa Clara County reported having a complete home ban on vaping (78.4%) and smoking (85.2%).
- Despite home bans on vaping and smoking, the rate of exposure to secondhand vapor and smoke was still high: generally one-third of high school students were exposed to secondhand vapor (37.7%) and smoke (30.3%) in a room in the last 30 days.
- Overall exposure to secondhand vapor and smoke in a room did not differ according to home type; however, students who lived in multi-unit housing (49.9%) and in other housing (54.1%) reported greater exposure to drifting smoke than those who lived in detached houses (31.7%).

Other Behaviors

- Most students felt connected to their school (61.6%) or knew of at least one adult who cared about them (65.8%). Those who used combustible tobacco products were less likely to feel connected to their school (46.4%) or to a school staff member (47.8%).
- The majority of high school students (54.8%) in Santa Clara County do not usually walk home from school.
- Many high school students in Santa Clara County reported drinking soda (28.2%) and/or a sweetened fruit drink, sports drink, or energy drink (36.4%) the previous day.

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

*Suorin was added to the e-cigarette description in February 2018. It was not originally listed because the 2017–18 CSTS was developed before Suorin use became widespread.

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‡]?”

*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 Interpreting 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.

CHAPTER 1 – Tobacco Use Behavior

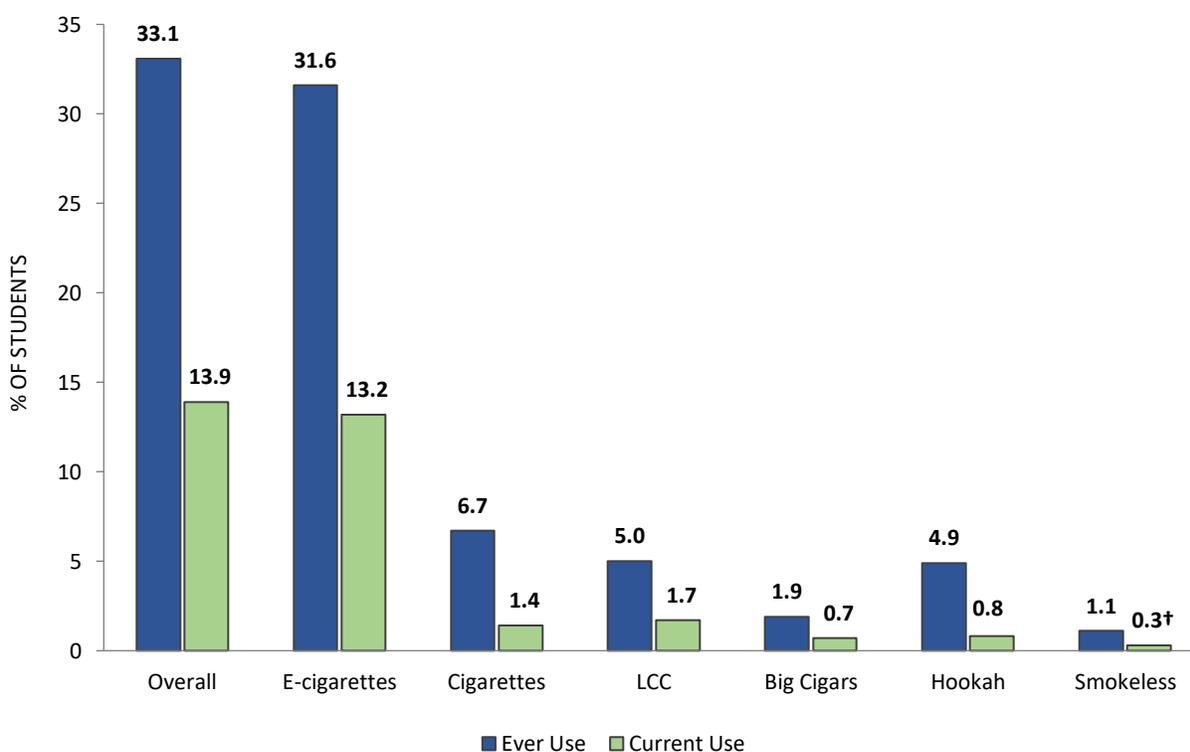
Highlights

- 13.9% of high school students in Santa Clara County reported currently using any tobacco product.
- E-cigarettes were the most popular tobacco product, with approximately one out of seven high school students (13.2%) currently using them.
- Only 1.4% of high school students in Santa Clara County reported smoking cigarettes.
- Current use of all combustible tobacco products was very low. This was true across gender, race/ethnicity, and grade.
- Most students used tobacco products infrequently.
- About 2.2% of current users reported using more than one tobacco product.

Tobacco Product Use among High School Students

In Santa Clara County, 33.1% of high school students have tried any tobacco product, while 13.9% reported currently using a tobacco product (Figure 1). In both cases, the vast majority of use was attributed to e-cigarettes, with 13.2% of students reporting currently using the product. By contrast, current use rates for all combustible tobacco products were less than 2%.

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



Note: Refer to Table A in Appendix E – Supplementary Tables to view estimates with confidence intervals.

†Data are statistically unreliable because relative standard error 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. Due to the small sample sizes for some of the racial/ethnic groups in the survey, Native Hawaiian and Other Pacific Islander, American Indian or Alaska Native, and non-standard entries were all combined into the *Other* category in this report. Approximately 7.5% of students declined to answer either race/ethnicity question.

In all eligible CSTS schools in Santa Clara County, about 34.7% of 10th and 12th grade students were Non-Hispanic Asian; the proportion of Asian students who actually participated in the survey was 40%. Although this group was not particularly overrepresented in the county's sample, cautious interpretation of all estimates is imperative, as results from the 2017–18 California Student Tobacco Survey show that Asian students had the lowest tobacco use rates.³ These estimates have been flagged to alert readers.

For the question on gender, there is a response option *I identify my gender in another way* in addition to *Male* and *Female*. Approximately 2.3% of participating students in Santa Clara County indicated that they identified their gender another way, and 6.7% 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).⁴

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/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 the tables readable.

Overall Prevalence of Tobacco Use by Demographics

Tobacco use among high school students in Santa Clara County was examined across participant demographics, as presented in Table 1.

Table 1 shows that there are no significant differences in use behavior between male and female students, with roughly one out of eight male and female students currently using any tobacco product. Students who identified their gender in another way or declined to answer had generally higher rates of ever and current tobacco use, although not significant.

Across racial/ethnic categories, White students in Santa Clara County had the highest rate of current use of tobacco products compared to all other racial/ethnic subgroups (26.5%); however, this estimate must be interpreted with caution due to the wide confidence interval. Those who reported Other race/ethnicity had the second highest rates of current use (25.2%). Asian students, which are the largest group, had the lowest rate of current use (7.5%) relative to most other racial/ethnic groups.

There are no significant differences in rates of current tobacco use between 12th graders (16.5%) and 10th graders (11.1%).

Table 1. Prevalence of tobacco use by gender, race/ethnicity, and grade

	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	4582	33.1 (27.1-39.1)	13.9 (10.2-17.5)
Gender			
Male	1977	31.2 (25.9-36.4)	13.7 (10.6-16.7)
Female	2168	33.0 (26.6-39.5)	12.8 (8.3-17.3)
Identified in Another Way	98	42.7 (33.4-52.1)	20.7 (12.7-28.6)
Declined to Answer	287	44.3 (31.6-56.9)	20.4 (14.6-26.1)
Race/Ethnicity			
White	293	41.4 (23.8-59.1)	26.5 (11.0-41.9)
Black	47	31.2 (19.3-43.2)	10.2 (4.6-15.9)
Hispanic	1416	40.5 (35.1-45.9)	14.7 (13.0-16.4)
Asian	1897*	21.3 (18.3-24.2)	7.5 (6.0-8.9)
Other	115	42.9 (34.5-51.4)	25.2 (18.2-32.2)
Multiple	406	34.4 (27.4-41.3)	15.7 (11.2-20.3)
Declined to Answer	304	42.4 (27.0-57.8)	20.7 (13.0-28.4)
Grade			
Grade 10	2497	28.7 (22.5-34.8)	11.1 (8.2-14.0)
Grade 12	2085	37.4 (30.5-44.3)	16.5 (11.4-21.5)

Note: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

*Asian race/ethnicity is the largest subgroup in this sample. Data must be interpreted with caution.

Use of Specific Tobacco Products by Demographics

Table 2 shows the use of specific tobacco products, in addition to the rate of overall tobacco use. Although high school students in Santa Clara County who identified in another way or declined to answer the gender-identity question generally had higher use rates, there were no significant differences between all gender subgroups. However, gender differences are evident between specific tobacco products. For example, those who identified their gender in another way reported using cigarettes, big cigars, and hookah at higher rates (8.0%, 7.6%, and 8.2%, respectively) compared to male and female students; there were no significant differences in product use between those who identified in another way and those who declined to answer.

Table 2. Prevalence of current tobacco product use by gender

	Male	Female	Identified in Another Way	Declined to Answer
	N=1977	N=2168	N=98	N=287
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Overall	13.7 (10.6-16.7)	12.8 (8.3-17.3)	20.7 (12.7-28.6)	20.4 (14.6-26.1)
E-cigarettes	13.1 (9.9-16.3)	12.3 (7.6-17.0)	20.9 (10.4-31.4)	18.9 (13.7-24.1)
Cigarettes	1.5 (1.0-2.0)	0.7 (0.2-1.2) [†]	8.0 (3.1-12.8) [†]	2.6 (0.1-5.0) [†]
LCC	1.6 (0.5-2.7) [†]	1.3 (0.3-2.4) [†]	7.2 (1.1-13.3) [†]	3.2 (1.5-4.8)
Big cigars	0.8 (0.2-1.4) [†]	0.1 (0.0-0.2) [†]	7.6 (2.4-12.7) [†]	1.2 (0.0-2.4) [†]
Hookah	0.4 (0.2-0.6)	0.8 (0.3-1.3) [†]	8.2 (3.4-13.0)	0.5 (0.0-1.3) [†]
Smokeless	0.3 (0.0-0.5) [†]	0.0 [§]	6.1 (0.0-12.2) [†]	0.5 (0.0-1.1) [†]

[†]Data are statistically unreliable because relative standard error is greater than 30%. Interpret with caution.

[§]Confidence interval was omitted even though the Agresti–Coull method was applied due to the estimate’s small upper limit (<0.1).

Table 3 presents current use of tobacco products by race/ethnicity. Differences in use of specific tobacco products replicate differences in overall rates of use. Of note, Asian students generally had the lowest prevalence of use of all tobacco products (7.5%) relative to other racial/ethnic groups.

Table 3. Prevalence of current tobacco product use by race/ethnicity

	White N=293 % (95% CI)	Black N=47 % (95% CI)	Hispanic N=1416 % (95% CI)	Asian* N=1897 % (95% CI)	Other N=115 % (95% CI)	Multiple N=406 % (95% CI)	Declined to Answer N=304 % (95% CI)
Overall	26.5 (11.0-41.9)	10.2 (4.6-15.9)	14.7 (13.0-16.4)	7.5 (6.0-8.9)	25.2 (18.2-32.2)	15.7 (11.2-20.3)	20.7 (13.0-28.4)
E-cigarettes	26.4 (10.5-42.3)†	10.8 (4.6-16.9)	13.9 (12.1-15.8)	7.4 (5.8-8.9)	22.7 (17.1-28.3)	15.0 (9.3-20.6)	18.7 (12.8-24.5)
Cigarettes	0.7 (0.1-1.3)†	3.7 (0.0-9.8)†	1.1 (0.6-1.7)	0.9 (0.5-1.3)	4.4 (0.0-8.9)†	2.4 (0.9-3.8)†	3.0 (0.9-5.1)†
LCC	1.5 (0.0-3.1)†	3.7 (0.0-9.9)†	2.2 (1.4-2.9)	0.3 (0.0-0.5)†	8.3 (1.8-14.8)†	1.9 (0.0-3.8)†	4.4 (1.9-7.0)
Big cigars	0.8 (0.5-1.1)	3.6 (0.0-9.6)†	0.5 (0.3-0.7)	0.0 (0.0-0.1)†	3.1 (0.0-7.1)†	1.4 (0.0-3.1)†	2.0 (0.7-3.3)†
Hookah	0.0 (0.0-0.1)‡	3.6 (0.0-9.6)†	1.2 (0.9-1.5)	0.1 (0.0-0.2)†	5.3 (0.7-9.8)†	0.6 (0.0-1.2)†	1.2 (0.0-2.5)†
Smokeless	0.2 (0.0-0.7)†	3.6 (0.0-9.6)†	0.2 (0.0-0.4)†	0.0§	3.2 (0.0-7.3)†	0.2 (0.0-0.6)†	0.8 (0.0-1.5)†

Note: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

*Asian race/ethnicity is the largest subgroup in this sample. Data must be interpreted with caution.

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

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

§Confidence interval was omitted even though the Agresti–Coull method was applied due to the estimate’s small upper limit (<0.1).

Table 4 presents tobacco product use by grade among high school students. There are no significant differences between 10th and 12th graders, with the exception of cigarette use, where 12th grade students reported significantly higher use rates compared to 10th grade students (2.1% vs. 0.6%, respectively). E-cigarettes were consistently the most popular product used by both 10th and 12th grade students, and the prevalence of use of other tobacco products was low.

Table 4. Prevalence of current tobacco product use by grade

	Grade 10 N=2497 % (95% CI)	Grade 12 N=2085 % (95% CI)
Overall	11.1 (8.2-14.0)	16.5 (11.4-21.5)
E-cigarettes	10.5 (7.4-13.5)	15.9 (10.4-21.3)
Cigarettes	0.6 (0.0-1.1)†	2.1 (1.4-2.8)
LCC	1.0 (0.4-1.7)†	2.3 (0.8-3.7)†
Big cigars	0.4 (0.2-0.6)	0.9 (0.2-1.6)†
Hookah	0.8 (0.4-1.2)	0.9 (0.3-1.4)†
Smokeless	0.1 (0.0-0.3)†	0.5 (0.0-0.9)†

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

Use of Specific Tobacco Products by LGBTQ Community Affiliation

Table 5 presents tobacco product use by reported LGBTQ Community affiliation. In Santa Clara County, 11.5% of surveyed students identified as LGBTQ and 11.0% declined to answer. There were no significant differences in current tobacco product use among those who identified as LGBTQ, did not identify as LGBTQ, and declined to answer. Consistent with previous results, e-cigarettes were the most commonly used product by all respondents.

Table 5. Prevalence of current tobacco product use by LGBTQ Community affiliation

	Identified as LGBTQ N=521 % (95% CI)	Did not Identify as LGBTQ N=3512 % (95% CI)	Declined to Answer N=498 % (95% CI)
Overall	15.9 (12.7-19.0)	13.3 (9.2-17.4)	15.4 (9.8-21.0)
E-cigarettes	14.9 (11.1-18.6)	12.9 (8.5-17.4)	13.3 (9.2-17.5)
Cigarettes	2.9 (1.1-4.7)†	1.0 (0.7-1.3)	2.1 (0.7-3.5)†
LCC	2.1 (0.2-4.1)†	1.4 (0.6-2.3)†	3.2 (1.8-4.6)
Big cigars	1.4 (0.1-2.8)†	0.4 (0.0-0.8)†	1.4 (0.4-2.4)†
Hookah	1.9 (0.6-3.3)†	0.5 (0.3-0.6)	1.5 (0.3-2.8)†
Smokeless	1.0 (0.0-2.4)†	0.2 (0.0-0.3)†	0.3 (0.0-0.6)†

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

Frequency of Current Tobacco Product Use

Overall, more than half of students reported infrequent usage: 54.2% of current users reported using a product 1–2 days or 3–5 days (39.6% + 14.6% = 54.2%). Almost one-quarter (23.4%) of students used a product on 20 or more days of the past 30 days. Notably, the vast majority of smokeless tobacco users (74.8%) reported using the product on 20 or more days of the past 30 days.

Table 6. Frequency of 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	555	39.6 (29.6-49.6)	14.6 (11.6-17.6)	22.4 (18.9-25.9)	23.4 (11.9-34.8)
E-cigarettes	508	40.1 (29.9-50.3)	14.6 (10.8-18.3)	22.0 (18.5-25.4)	23.4 (10.9-35.9)
Cigarettes	53	38.9 (29.5-48.3)	9.7 (2.7-16.6)†	22.1 (16.8-27.5)	29.3 (20.7-37.9)
LCC	54	31.8 (19.1-44.6)	15.5 (4.4-26.6)†	27.7 (20.5-34.9)	24.9 (14.0-35.9)
Big cigars	23	36.6 (12.3-60.9)†	9.7 (2.3-17.0)†	10.5 (0.7-20.3)†	43.2 (27.4-59.1)
Hookah	31	26.4 (10.0-42.8)†	24.8 (0.6-48.9)†	17.6 (0.5-34.8)†	31.2 (13.1-49.2)
Smokeless	12	5.0 (0.0-15.9)†	5.8 (0.0-17.0)†	14.3 (0.0-33.6)†	74.8 (61.5-88.1)

*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 standard error is greater than 30%. Interpret with caution.

Multiple Tobacco Product Use

Table 7 presents current use of multiple products, referred to as poly use, by participant demographics. Only 2.2% of students reported using two or more tobacco products, representing 15.8% of current users. The low rate of poly use may be due to the fact that current use is mainly driven by e-cigarette use compared to other products (e.g., combustible or smokeless tobacco).

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 tobacco products % (95% CI)
Overall	4582	13.9 (10.2-17.5)	2.2 (1.3-3.2)
Gender			
Male	1977	13.7 (10.6-16.7)	2.4 (1.0-3.7)
Female	2168	12.8 (8.3-17.3)	1.6 (0.7-2.5)
Identified in Another Way	98	20.7 (12.7-28.6)	8.2 (3.5-12.9)
Declined to Answer	287	20.4 (14.6-26.1)	3.0 (1.3-4.6)
Race/Ethnicity			
White	293	26.5 (11.0-41.9)	2.0 (1.0-3.0)
Black	47	10.2 (4.6-15.9)	3.6 (0.0-9.6)†
Hispanic	1416	14.7 (13.0-16.4)	2.8 (1.9-3.7)
Asian	1897*	7.5 (6.0-8.9)	0.9 (0.4-1.4)
Other	115	25.2 (18.2-32.2)	6.1 (1.4-10.7)†
Multiple	406	15.7 (11.2-20.3)	2.1 (0.5-3.6)†
Declined to Answer	304	20.7 (13.0-28.4)	4.8 (2.7-6.9)
Grade			
Grade 10	2497	11.1 (8.2-14.0)	1.2 (0.7-1.8)
Grade 12	2085	16.5 (11.4-21.5)	3.2 (1.5-4.9)

Note: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

*Asian race/ethnicity is the largest subgroup in this sample. Data must be interpreted with caution.

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

CHAPTER 2 – Use of Flavored Tobacco Products

Highlights

- Despite a county-imposed partial ban on flavored tobacco product sales, the vast majority of high school students (82.3%) in Santa Clara County who were current tobacco users reported using a flavored tobacco product.
- The highest use of flavored products was among current hookah users (82.9%), e-cigarette users (82.6%), and LCC users (82.3%).
- About two-thirds of current cigarette smokers (62.9%) reported using menthol/mint cigarettes in the last 30 days.
- *Fruit or sweet* flavors were reported most frequently for all tobacco products except cigarettes and smokeless tobacco.

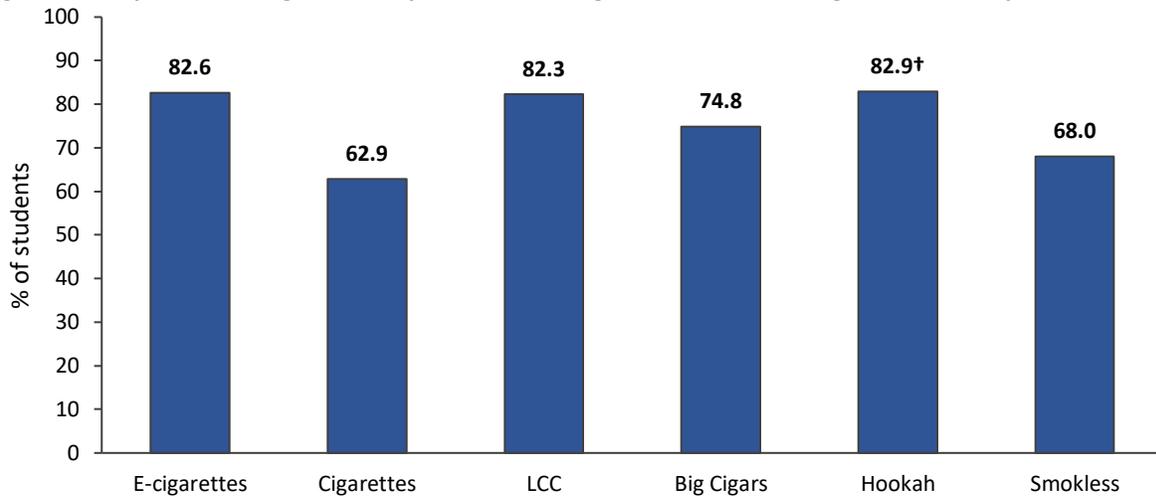
Flavored Tobacco Product Use in Santa Clara County

Santa Clara County and three cities have banned the sale of flavored tobacco products in unincorporated county areas (although there are exceptions for adults-only tobacco businesses), making it increasingly difficult for some students to access flavored tobacco products. In addition, the Santa Clara Public Health Department launched initiatives like “Sweet Deceit: Don’t Be Fooled by Flavored Tobacco” to target the tobacco industry and its intentional marketing toward vulnerable groups through the appeal of flavored products. This chapter presents information on student use of flavored tobacco products.

Flavored Tobacco Product Use among High School Students

Overall, 82.3% of students in Santa Clara County who were current tobacco users reported using flavored tobacco products in the last 30 days (data not shown). Use of flavored products was widespread across *all* tobacco products, even cigarettes, for which only menthol/mint flavor is available (Figure 2); almost two-thirds of cigarette smokers (62.9%) reported using flavored cigarettes in the last 30 days. The most prevalent flavored tobacco products were hookah (82.9%), e-cigarettes (82.6%), and LCC (82.3%).

Figure 2. Proportion using flavored products among current users of a given tobacco product



Note: Refer to Table B in Appendix E – Supplementary Tables to view estimates with confidence intervals.

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

Flavored Tobacco Use by Demographics

Table 8 presents current use of any flavored tobacco product by participant demographics. Across gender, race/ethnicity, and grade, the vast majority of students reported using flavored tobacco products in the last 30 days. Students who reported their race/ethnicity as Black were excluded from the table to preserve student confidentiality.

Table 8. Proportion using flavored tobacco products among current tobacco users

	N	Current use % (95% CI)
Overall	557	82.3 (78.5-86.2)
Gender		
Male	245	81.0 (75.9-86.1)
Female	236	83.9 (80.1-87.7)
Identified in Another Way	17	84.5 (63.5-100.0)†
Declined to Answer	51	78.9 (69.3-88.6)
Race/Ethnicity		
White	65	85.7 (80.4-90.9)
Hispanic	193	77.5 (72.1-82.9)
Asian	135	89.3 (83.8-94.8)
Other	27	84.7 (73.7-95.7)†
Multiple	61	85.4 (78.5-92.3)
Declined to Answer	55	75.1 (64.2-85.9)
Grade		
Grade 10	249	80.1 (73.7-86.5)
Grade 12	308	83.7 (77.6-89.8)

Notes: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries; Black students were excluded from this table in order to preserve student confidentiality.

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

Use of Specific Flavor Types

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 9, with the exception of cigarettes (where *mint* is the only flavor) and smokeless tobacco, *fruit or sweet* flavors were by far the most popular. In fact, 80.7% of high school students in Santa Clara County indicated usually using *fruit or sweet* flavored e-liquid over other flavors. Furthermore, the majority of students who used LCC and hookah reported using *fruit or sweet* flavors (69.9% and 61.8%, respectively). Very few students reported using *tobacco* flavored e-cigarettes (0.3%). Of note, the majority of smokeless tobacco users indicated using *other* flavor; however, this may be attributed to the relatively small sample size of current users of the product.

Table 9. Types of flavors among those who currently used flavored products

	N	Fruit or sweet % (95% CI)	Mint % (95% CI)	Tobacco* % (95% CI)	Other % (95% CI)
E-cigarettes	405	80.7 (76.9-84.5)	13.4 (10.3-16.5)	0.3 (0.0-0.7)†	5.6 (3.2-8.0)
Cigarettes	32	--	100.0	--	--
LCC	47	69.9 (53.5-86.2)	12.4 (0.0-26.6)†	--	17.7 (10.8-24.7)
Big Cigars	17	41.4 (15.6-67.1)†	17.3 (0.0-39.1)†	--	41.3 (27.6-55.1)
Hookah	26	61.8 (36.5-87.1)†	2.2 (0.0-6.0)†	--	36.0 (10.4-61.6)†
Smokeless	7	8.0 (0.0-25.6)†	0.0 (0.0-11.5)‡	--	92.0 (74.4-100.0)†

Note: For cigarettes, mint/menthol was the only flavor option provided.

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

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

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

CHAPTER 3 – Susceptibility to Future Tobacco Use

Highlights

- Two in five high school students (40.1%) in Santa Clara County who had never used a tobacco product were susceptible to using at least one tobacco product in the future.
- Rates of susceptibility to different tobacco products varied across demographic variables, but generally two-fifths of never users in all subgroups were susceptible to using a tobacco product.
- Overall, a higher proportion of never users were susceptible to future tobacco use when they had more friends who used a tobacco product.

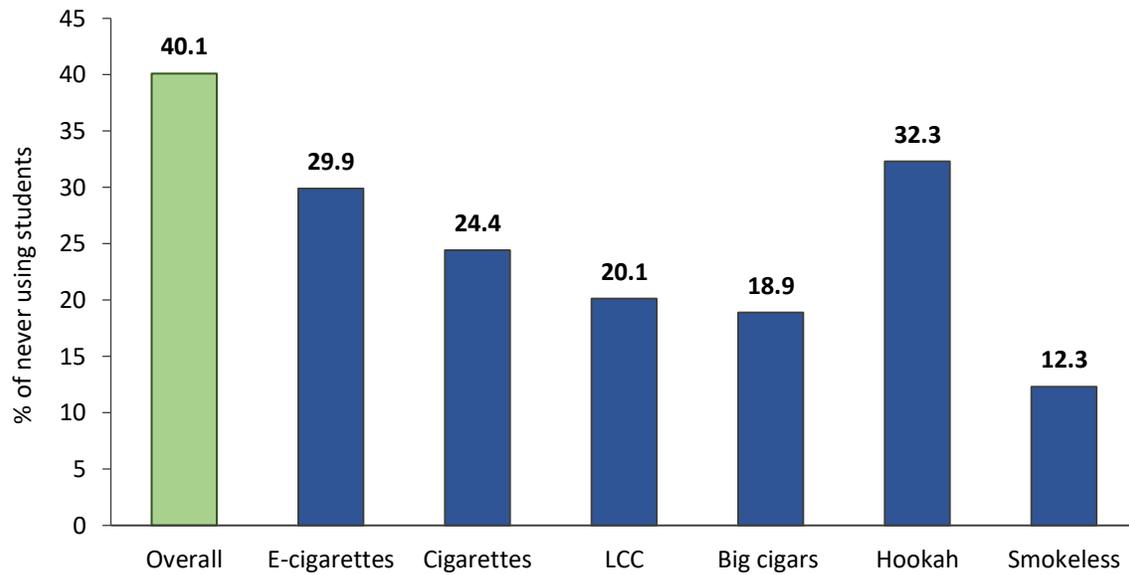
Susceptibility and Tobacco Use Behavior

Intention is a strong predictor of performing a behavior.⁵ 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.⁶ In the 2017–18 CSTS, students in Santa Clara County 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 chapter presents Santa Clara County high school students' susceptibility to future use of any tobacco product, as well as to specific tobacco products.

Susceptibility to Tobacco Use among High School Students

Figure 3 shows the proportion of never using high school students' susceptibility to future tobacco use. Overall, 40.1% of never users of any tobacco product were susceptible to at least one product. Susceptibility to specific tobacco products generally varied according to product popularity, although hookah (used at lower rates than e-cigarettes) represents an anomaly. Never users of the product in Santa Clara County were most susceptible to using hookah (32.3%) and e-cigarettes (29.9%); they were least susceptible to using LCC (20.1%), big cigars (18.9%), and smokeless tobacco (12.3%).

Figure 3. Susceptibility to future tobacco use among never users



Note: Refer to Table C in Appendix E – Supplementary Tables to view estimates with confidence intervals.

Susceptibility to Tobacco Use by Demographics

When comparing susceptibility among never using students, a higher proportion of never using female students (43.5%) were susceptible to future tobacco use compared to male students (35.8%). While susceptibility varied somewhat across racial/ethnic groups, generally about two-fifths of non-users were susceptible to future tobacco use for each subgroup. Similar to overall and current tobacco use between 10th and 12th grade students, susceptibility to future tobacco use was approximately the same for both grade levels (38.3% and 42.1%, 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	3117	40.1 (38.4-41.8)
Gender		
Male	1378	35.8 (33.0-38.6)
Female	1499	43.5 (40.4-46.7)
Identified in Another Way	55	42.9 (32.9-52.8)
Declined to Answer	152	45.1 (37.7-52.5)
Race/Ethnicity		
White	184	36.7 (34.6-38.8)
Black	32	29.8 (15.3-44.2)
Hispanic	833	43.7 (41.0-46.3)
Asian	1502*	38.7 (34.9-42.4)
Other	66	43.4 (29.0-57.7)
Multiple	267	39.5 (33.7-45.3)
Declined to Answer	163	37.8 (32.7-42.9)
Grade		
Grade 10	1792	38.3 (36.1-40.4)
Grade 12	1325	42.1 (39.7-44.5)

Note: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

*Asian race/ethnicity is the largest group in this sample. Data must be interpreted with caution.

Susceptibility to Tobacco Use by Environmental Influences

Students indicated the proportion of their friends that used specific tobacco products. Peer influences are important in initiating tobacco use; therefore, never users may be at higher risk of initiating tobacco use when they have friends who use those products. Table 11 presents never users' susceptibility to future tobacco use by the proportion of their friends that use the tobacco product. Overall, a higher proportion of never users were generally more susceptible to future tobacco use when they had more friends who used a tobacco product.

The proportion of never users susceptible to future hookah use was highest across all tobacco products and categories of friend use. As mentioned earlier in this chapter, students' high rates of susceptibility to hookah represents an anomaly given its relatively low use. This anomaly may reflect the way hookah is typically used (i.e., in a hookah lounge or similar social setting), which may increase its allure as both a social and perhaps exotic activity to try.

Table 11. Proportion of never users who are susceptible to future tobacco use by the number of tobacco-using friends

	None		Some		Most or All	
	N	% (95% CI)	N	% (95% CI)	N	% (95%)
E-cigarettes	1440	17.4 (15.6-19.3)	1138	40.2 (35.8-44.7)	259	50.3 (44.1-56.6)
Cigarettes	3000	21.9 (20.8-23.1)	822	30.6 (28.4-32.8)	68	32.8 (24.1-41.4)
LCC	3480	18.0 (16.5-19.4)	403	31.3 (28.8-33.8)	54	44.2 (31.5-56.9)
Hookah	3093	26.3 (24.2-28.5)	689	52.2 (46.5-57.8)	76	56.8 (43.5-70.2)

CHAPTER 4 – Environmental Influences

Highlights

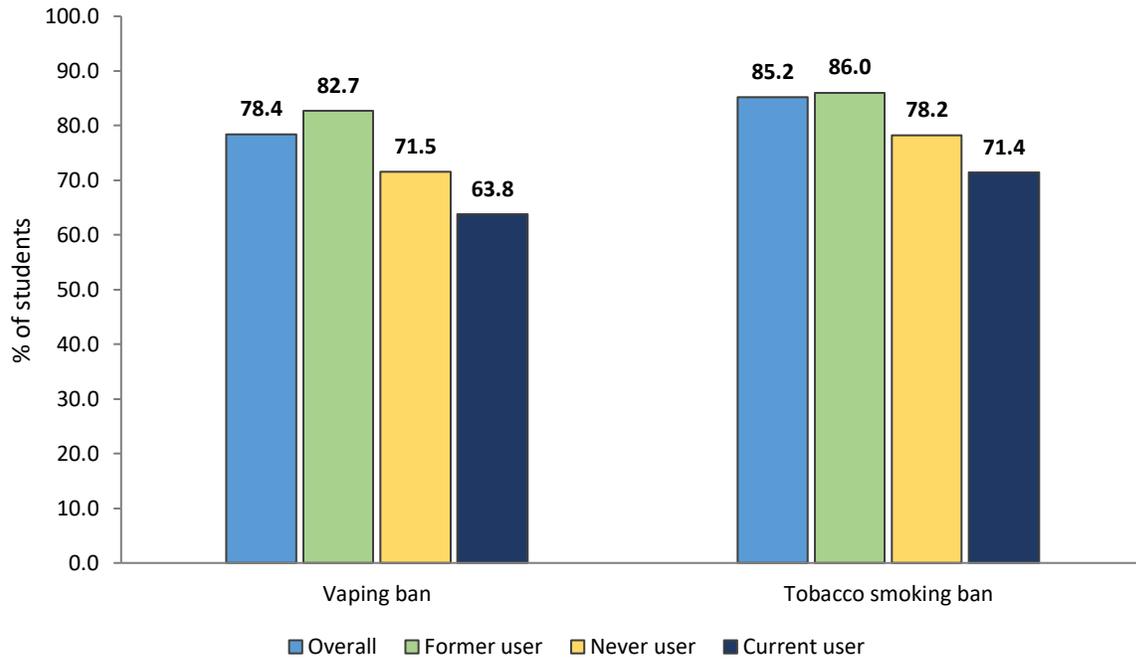
- Most high school students in Santa Clara County reported living in a home that had complete bans on smoking (85.2%) and vaping (78.4%).
- Some Santa Clara County students reported being exposed to secondhand vapor (24.1%) or smoke (13.3%) in a car in the last 30 days.
- More students reported being exposed to secondhand vapor (37.7%) or smoke (30.3%) in a room than in a car (24.1% and 13.3%, respectively) in the last 30 days. The proportion of students exposed did not significantly differ according to home type.
- Almost two-fifths of students (37.5%) in Santa Clara County reported smelling tobacco smoke drifting in from the neighborhood. Those who lived in multi-unit housing had the highest rate of exposure (49.9%).

Home Bans for Vaping and Smoking among 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 (78.4% and 85.2%, 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 and never smokers reported having a complete home ban relative to current vapers and smokers. Rates of home bans among former vapers and smokers fell between those for never and current users. Fewer vapers generally reported having a home ban compared to smokers. However, rates of home bans on vaping were relatively high given e-cigarettes’ recent introduction to the marketplace.

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



Note: Refer to Table D in Appendix E – Supplementary Tables to view estimates with confidence intervals.

*Tobacco smoke and corresponding use status were based on two products: cigarettes and LCC.

Table 12 provides data on the rates of complete home bans on vaping and smoking by race/ethnicity. Similar to the overall results reported in Figure 4, across racial/ethnic groups, reports of complete home bans on smoking and vaping were high, and more students generally reported having a home ban on smoking than on vaping.

Table 12. 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	4114	78.4 (76.5-80.2)	4185	85.2 (83.8-86.5)
White	280	75.5 (69.3-81.6)	283	82.3 (78.2-86.4)
Black	40	73.9 (67.0-80.7)	40	78.8 (72.1-85.5)
Hispanic	1283	81.5 (79.6-83.5)	1302	86.4 (84.6-88.2)
Asian‡	1793	77.5 (73.9-81.2)	1821	86.0 (83.9-88.1)
Other	100	67.1 (55.4-78.8)	101	77.7 (66.7-88.7)
Multiple	382	76.2 (73.5-78.9)	385	84.6 (81.1-88.2)
Declined to Answer	165	76.8 (67.5-86.0)	183	82.4 (75.4-89.5)

Note: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

*Two products: cigarettes and LCC

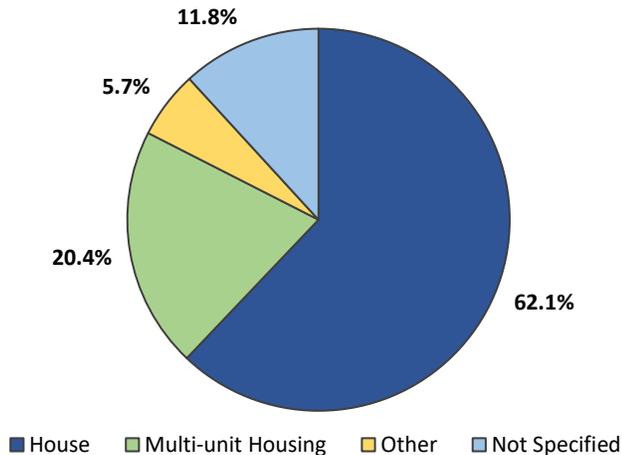
‡Asian race/ethnicity is the largest subgroup in this sample. Data must be interpreted with caution.

Home Type

Students are predisposed to environmental influences that may affect tobacco use behavior and vulnerability to secondhand exposure to smoke and vapor. Santa Clara County was interested in exploring the correlation between secondhand exposure and home type. Therefore, students were asked what type of home they currently live in. There were five answer categories: *a house that is not attached to another house; an apartment, condominium, or townhouse that shares a wall with another unit; some other type of housing; I don't know; and I prefer not to answer.* For reporting purposes, we abbreviated the five response choices as “House” (*a house that is not attached to another house*), “Multi-unit housing” (*an apartment, condominium, or townhouse that shares a wall with another unit*), and “Other” (*some other type of housing*). The options *I don't know* and *I prefer not to answer* were combined under “Not specified.”

Figure 5 presents the prevalence of students who reported each home type. Overall, the majority of students lived in a house (62.1%).

Figure 5. Prevalence of housing types in Santa Clara County



Note: Not specified = “I prefer not to answer” and “I don't know” answer choices
Refer to Table E in Appendix E – Supplementary Tables to view estimates with confidence intervals

Table 13 presents the prevalence of current use of a given tobacco product based on the type of home students reported they lived in. Across home type, e-cigarettes were the most prevalent product used by students, while combustible tobacco product use was low. There were no significant differences of product use between home types, with the exception of LCC and hookah use, where those who did not specify their home type reported a higher prevalence of use compared to those who lived in houses.

Table 13. Prevalence of current tobacco product use by home type

	House N=2861 % (95% CI)	Multi-unit housing N=922 % (95% CI)	Other N=238 % (95% CI)	Not specified N=504 % (95% CI)
Overall	13.3 (7.9-18.7)	13.1 (10.5-15.7)	14.3 (8.2-20.3)	18.0 (13.3-22.7)
E-cigarettes	13.0 (7.2-18.7)	12.0 (9.4-14.6)	13.4 (6.5-20.4)	16.8 (12.4-21.1)
Cigarettes	0.9 (0.6-1.3)	1.3 (0.6-2.0)	3.0 (0.5-5.5)†	2.9 (0.7-5.1)†
LCC	1.0 (0.1-2.0)†	2.3 (0.7-3.8)†	1.5 (0.0-3.1)†	4.3 (2.8-5.9)
Big cigars	0.5 (0.0-1.0)†	0.4 (0.0-0.9)†	1.0 (0.0-2.6)†	1.6 (0.5-2.8)†
Hookah	0.3 (0.0-0.5)†	1.0 (0.5-1.6)	1.9 (0.0-3.9)†	2.6 (1.2-4.0)
Smokeless	0.1 (0.0-0.2)†	0.1 (0.0-0.2)†	1.5 (0.0-4.5)†	1.3 (0.2-2.4)†

Note: Not specified = combined “I prefer not to answer” and “I don’t know” answer choices.

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

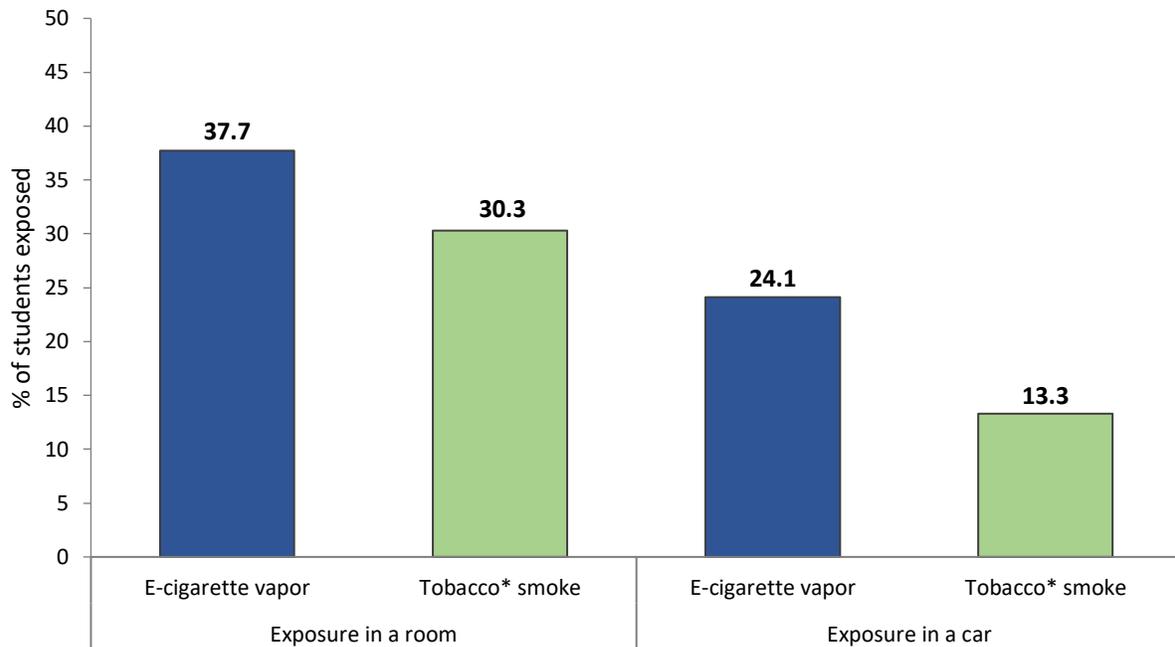
Exposure to Secondhand Vapor and Smoke in the Last 30 Days among High School Students

Secondhand exposure to tobacco products is a priority issue in Santa Clara County, as demonstrated by the county’s precautionary steps to restrict tobacco sales and tobacco smoking behavior in areas that may increase youth risk to secondhand and thirdhand smoke exposure. However, 51.3% of students 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 have been exposed in a car in the same way.

As shown in Figure 6, students reported being exposed to e-cigarette vapor and tobacco smoke in a room at higher rates compared to in a car. Secondhand exposure in a room within the last 30 days was similar for vapor and smoke (37.7% and 30.3%, respectively). However, students reported being exposed to vapor in a car at a higher rate compared to tobacco smoke (24.1% and 13.3%, respectively).

Figure 6. Prevalence of exposure in the last 30 days to e-cigarette vapor and tobacco* smoke in a room and car



Note: Refer to Table F in Appendix E – Supplementary Tables to view estimates with confidence intervals.

*Two products: cigarettes and LCC

Table 14 shows students’ exposure to e-cigarette vapor and tobacco smoke in a room based on their home type. There were no significant differences in exposure to secondhand vapor or smoke in a room according to home type.

Table 14. Prevalence of exposure in the last 30 days to e-cigarette vapor and tobacco* smoke in a room by home type

	N	E-cigarette vapor % (95% CI)	Tobacco* smoke % (95% CI)
Overall	4292	37.7 (31.0-44.4)	30.3 (28.7-31.9)
House	2775	39.6 (29.3-49.9)	29.9 (27.5-32.3)
Multi-unit housing	879	35.5 (32.3-38.8)	29.7 (26.7-32.8)
Other	231	37.2 (28.8-45.5)	35.1 (30.1-40.0)
Not specified	369	28.0 (19.3-36.7)	30.7 (23.3-38.0)

Note: Not specified = combined “I prefer not to answer” and “I don’t know” answer choices.

*Two products: cigarettes and LCC

Students in Santa Clara County were asked, “On how many of the past 7 days did you smell tobacco smoke from someone else’s cigarette, cigar, or pipe drifting into your home from nearby apartments or from outside?” Overall, 37.5% of students in Santa Clara County reported smelling tobacco smoke drifting into their home in the last seven days. More students who lived in multi-unit housing (49.9%) and in other housing (54.1%) reported smelling drifting tobacco smoke relative to those who lived in a house (31.7%) (Table 15). Most students reported being exposed 1 or 2 days during the past week regardless of home type.

Table 15. Prevalence of reported tobacco smoke drifting into home within the last 7 days

		Any in the last 7 days	1–2 days	3–5 days	6–7 days
	N	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Overall	4011	37.5 (31.2-43.7)	19.4 (17.4-21.4)	11.2 (8.2-14.2)	6.9 (4.9-8.8)
House	2737	31.7 (27.0-36.5)	18.0 (15.5-20.5)	8.4 (5.9-11.0)	5.3 (3.5-7.1)
Multi-unit housing	870	49.9 (43.5-56.2)	23.3 (20.0-26.6)	17.7 (15.6-19.7)	8.9 (5.4-12.4)
Other	231	54.1 (44.3-63.9)	23.4 (15.5-31.2)	16.9 (11.3-22.6)	13.8 (8.7-18.8)
Not specified	172	40.2 (32.6-47.8)	16.5 (8.5-24.4)	13.2 (9.3-17.2)	10.5 (5.0-16.0)

Notes: Not specified = combined “I prefer not to answer” and “I don’t know” answer choices.

Secondhand exposure may change due to Santa Clara County’s strengthening of smoke-free policies throughout its communities. Data from future waves of the CSTS will help to monitor changes in exposure. However, it is concerning that students have been exposed to secondhand e-cigarette vapor and tobacco smoke inside rooms and in cars and from outside tobacco smoke drifting into their homes.

CHAPTER 5 – Access to Tobacco Products

Highlights

- More high school students access e-cigarettes and cigarettes through social sources than purchase them through retail sources.
- Many students believed that it would be easy to get e-cigarettes (63.2%) or cigarettes (47.5%) if they wanted them.
- One in four (28.0%) high school students who had never used any tobacco product had nevertheless been offered a tobacco product in the last 30 days.

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 get tobacco products, particularly through social sources. This chapter presents data on how students access e-cigarettes and cigarettes and on student offers of tobacco products. Students who were current users of e-cigarettes or cigarettes were asked whether they pay for their own e-cigarettes (or e-liquid) or cigarettes. 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 and Cigarettes among High School Students

Table 16 and 17 describe how students usually obtained e-cigarettes (or e-liquid). Of 468 current e-cigarette users, 264 students (weighted percentage, 54.6%) reported obtaining their e-cigarettes from social sources without paying for them while 204 (weighted percentage, 45.4%) reported purchasing their e-cigarettes.

Table 16 presents data for students who usually obtained their e-cigarettes (or e-liquid) through social sources (N=264). More than three-fifths of them (60.8%) reported being offered e-cigarettes. Of note, a high percentage of these students did not report how they obtained e-cigarettes (13.3%).

Table 16. Acquisition of e-cigarettes (or e-liquid) among current e-cigarette users by social source

	Current e-cigarette users N=264
Did not pay for own e-cigarettes (or e-liquid)	% (95% CI)
Someone else offers them to me	60.8 (54.0-67.5)
I ask someone for them	17.3 (13.2-21.4)
I get them some other way	8.6 (5.7-11.5)
Declined to Answer	13.3 (9.2-17.4)

Note: data are based on a subset of current e-cigarette users who reported that they do not usually pay for their own e-cigarettes (54.6%; n=468).

Table 17 presents data for students who usually purchased their e-cigarettes or e-liquid (N=204). Almost three-fifths of these students reported buying e-cigarettes from the store themselves or from someone else. A smaller group of students (14.3%) reported buying e-cigarettes from the internet

(including apps). Again, a high percentage of students did not report how they bought e-cigarettes (24.2%).

Table 17. Acquisition of e-cigarettes (or e-liquid) among current e-cigarette users by purchase source

Current e-cigarette users	
N=204	
Paid for own e-cigarettes (or e-liquid)	% (95% CI)
I buy them from the store myself	26.8 (20.0-33.5)
I buy them from someone else	32.0 (23.9-40.0)
Internet (including apps)	14.3 (9.5-19.1)
Other	2.7 (0.9-4.6)†
Declined to Answer	24.2 (15.5-33.0)

Note: data are based on a subset of current e-cigarette users who reported that they usually pay for their own e-cigarettes (45.4%; n=468).

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

Table 18 and 19 describe how students usually obtained their cigarettes. Of current cigarette smokers (N=48), 26 students (weighted percentage, 52.6%) reported obtaining their cigarettes through social sources without paying for them, while 22 students (weighted percentage, 47.4%) reported purchasing their cigarettes.

Table 18 presents data for students who usually obtained their cigarettes through social sources (N=26). About one quarter of these students reporting being offered cigarettes. Of note, a high percentage of cigarette smokers did not report how they got cigarettes (25.0%).

Table 18. Acquisition of cigarettes among current cigarette users by social source

Current cigarette user	
N=26	
Did not pay for own cigarettes	% (95% CI)
Someone else offers them to me	25.7 (4.0-47.3)†
I ask someone for them	25.1 (9.3-40.9)†
I get them some other way	24.2 (7.2-41.2)†
Declined to Answer	25.0 (6.7-43.3)†

Note: data are based on a subset of current cigarette users who reported that they do not usually pay for their own cigarettes (52.6%; n=48).

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

Table 19 presents data for students who usually purchased their cigarettes (N=22). About three-fourths of them reported buying cigarettes from the store themselves or from someone else. A smaller group of students (5.1%) reported buying cigarettes from the internet (including apps). Again, just as with e-cigarette users, a high percentage of students did not report how they bought cigarettes (17.1%).

Table 19. Acquisition of cigarettes among current cigarette users by purchase source

	Current cigarette user N=22 % (95% CI)
Paid for own cigarettes	
I buy them from the store myself	17.3 (0.0-36.6)†
I buy them from someone else	57.4 (31.8-83.1)†
Internet (including apps)	5.1 (0.0-15.5)†
Other	3.1 (0.0-8.5)†
Declined to Answer	17.1 (2.6-31.6)†

Note: data are based on a subset of current cigarette users who reported that they do usually pay for their own cigarettes (47.4%; n=48).

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

Sources of E-cigarettes among High School Students Purchasing them from a Store

Students who reported buying e-cigarettes from a store were asked the specific store type where they bought the product. As shown in Table 20, among current e-cigarette users, vape shops (62.5%) were the most popular store type for purchasing e-cigarettes.

Table 20. Source of e-cigarettes among those high school students who buy e-cigarettes from a store by store type

	Bought e-cigarettes from a store N=52 % (95% CI)
Gas station or convenience store	4.2 (0.3-8.0)†
Grocery store	0.0 (0.0-1.7)‡
Drugstore or pharmacy	3.6 (0.0-10.7)†
Restaurant, deli, or donut shop	3.1 (0.0-7.0)†
Tobacco shop	15.0 (5.7-24.2)†
Vape shop	62.5 (46.2-78.8)
Other	6.1 (0.0-13.4)†
Declined to Answer	5.6 (0.0-13.2)†

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

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

Offers of Tobacco Products in the Last 30 Days among 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. Over one-quarter of students (28.0%) in Santa Clara County were offered a tobacco product in the last month (Table 21). Significantly more current users (79.8%) reported tobacco product offers relative to never (13.5%) or former users (43.5%). More students reported being offered e-cigarettes (the most prevalent product used by high school students) relative to cigarettes, LCC, or hookah across all use statuses.

Table 21. 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%)	N	% (95% CI)
Any of the below	4433	28.0 (22.2-33.9)	3082	13.5 (9.8-17.2)	820	43.5 (36.4-50.7)	528	79.8 (73.7-85.9)
E-cigarettes	4398	26.6 (20.5-32.7)	3065	12.3 (8.4-16.3)	719	41.7 (34.2-49.2)	483	80.1 (73.3-86.8)
Cigarettes	4417	5.1 (4.0-6.2)	4126	3.2 (2.3-4.1)	196	22.2 (17.0-27.3)	44	77.5 (63.3-91.7) [†]
LCC	4418	3.3 (2.2-4.5)	4196	1.7 (1.2-2.3)	120	21.8 (17.4-26.2)	53	62.4 (36.7-88.1) [†]
Hookah	4414	4.2 (3.1-5.3)	4186	2.6 (1.9-3.4)	150	23.9 (18.4-29.3)	31	74.5 (57.4-91.6) [†]

[†]Data are statistically unreliable because relative standard error is greater than 30%. Interpret with caution.

Offers of Tobacco Products by Demographics

Table 22 shows the prevalence of offers of tobacco products by demographics. Overall, offers of tobacco products according to demographic characteristics reflect the prevalence of tobacco use by gender, race/ethnicity, and grade. Offers of tobacco products were generally similar across gender. There were some differences in the prevalence of offers across racial/ethnic subgroups, with White students (41.4%) generally indicating the highest prevalence of offers and Asian students (19.9%) generally indicating the lowest prevalence of offers. There were no significant differences in offers across grade levels.

Table 22. Prevalence of offers of tobacco products* in the last 30 days by gender, race/ethnicity, and grade

	Overall	
	N	% (95% CI)
Overall	4433	28.0 (22.2-33.9)
Gender		
Male	1935	27.9 (22.7-33.2)
Female	2141	27.3 (20.3-34.3)
Identified in Another Way	89	39.1 (28.0-50.3)
Declined to Answer	230	29.4 (21.8-36.9)
Race/Ethnicity		
White	291	41.4 (24.7-58.2)
Black	47	39.8 (25.6-54.0)
Hispanic	1369	31.5 (28.9-34.1)
Asian	1871‡	19.9 (18.1-21.7)
Other	109	28.3 (16.1-40.5)
Multiple	401	30.0 (22.1-37.8)
Declined to Answer	255	29.5 (20.3-38.7)
Grade		
Grade 10	2426	26.1 (21.0-31.1)
Grade 12	2007	29.9 (22.7-37.1)

Note: Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

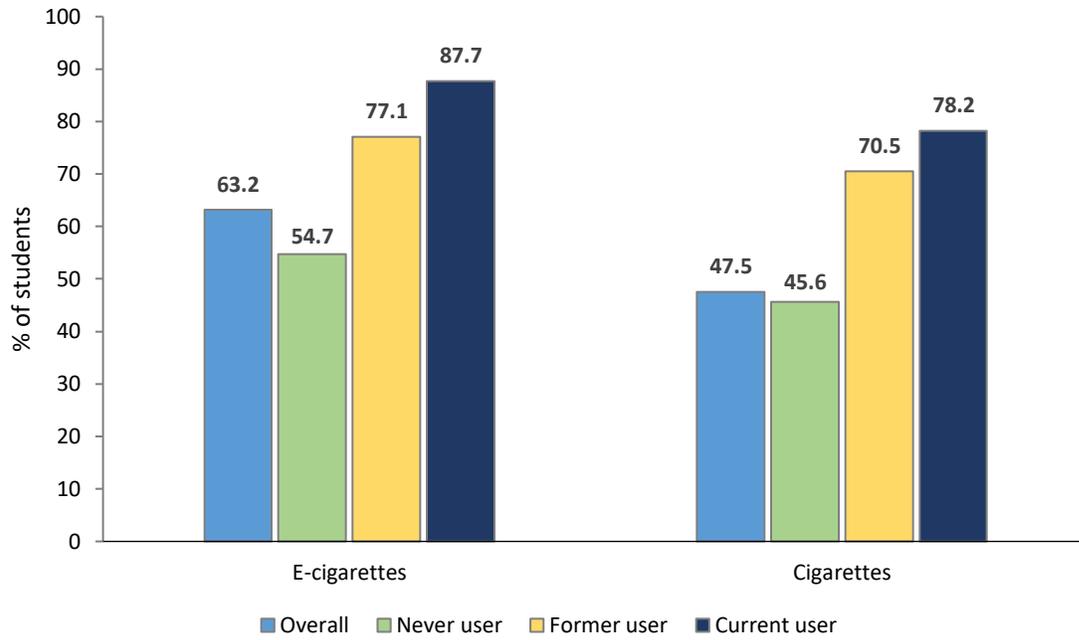
*Four products: e-cigarettes, cigarettes, LCC, and hookah

‡Asian race/ethnicity is the largest subgroup in this sample. Data must be interpreted with caution.

Perceived Ease of Acquiring E-Cigarettes and Cigarettes

Figure 7 presents the perceived ease of acquiring e-cigarettes and cigarettes among high school students in Santa Clara County. Overall 68.3% of students thought that it would be *very easy* or *somewhat easy* to get e-cigarettes or cigarettes, with significantly more students believing that it would be *very easy* or *somewhat easy* to get e-cigarettes (63.2%) relative to cigarettes (47.5%). Perceived ease of access differed significantly according to product use status, with a higher percentage of current users perceiving that it would be *very easy* or *somewhat easy* to get e-cigarettes or cigarettes relative to never or former users.

Figure 7. Perceived ease of acquiring e-cigarettes and cigarettes by use status



Note: Refer to Table G in Appendix E – Supplementary Tables to view estimates with confidence intervals.

CHAPTER 6: School Connectedness and Tobacco Use

Highlights

- 61.6% of high school students in Santa Clara County felt connected to their school, and 65.8% of students knew of at least one adult on campus who cared about them.
- Students who reported ever using combustible tobacco products were least likely to feel connected with their school or a school staff member.

School Connectedness among High School Students

Student experiences in high school and their relationships affect mood, substance use in later years, and the likelihood of completing secondary school.⁷ Research has shown that having both good school and social connectedness is associated with the best outcomes.⁷ Students in Santa Clara County were asked how strongly they agreed or disagreed with the statements, “I feel like I am part of this school,” and “At my school, there is a teacher or some other adult who really cares about me.”

Table 23 shows that out of all high school students in Santa Clara County, 61.6% felt like they were a part of their school. Additionally, two out of three students agreed that they knew at least one adult on campus who cared about them (65.8%).

Table 23. Prevalence of high school students who felt connected to their school and to an adult at their school

	N	Agree % (95% CI)	Disagree % (95% CI)	Declined to answer % (95% CI)
School connectedness	4514	61.6 (59.1-64.2)	28.7 (25.5-31.9)	9.7 (7.7-11.7)
Educator connectedness	4506	65.8 (60.7-70.9)	24.3 (19.2-29.4)	9.8 (7.9-11.8)

Table 24 presents whether high school students reported feeling connected to their school based on tobacco product type and use. Overall, more students reported feeling connected to their school at higher rates than those who did not regardless of tobacco use or product, with the exception of combustible product users. Those who used a combustible product were less likely to feel connected with their school. However, this group had the smallest sample size with the highest rate of students who declined to answer.

Table 24. Proportion of high school students who felt connected to their school by tobacco product use status

		Agree	Disagree	Declined to answer
	N	% (95% CI)	% (95% CI)	% (95% CI)
Used any tobacco product	549	58.5 (52.8-64.2)	30.6 (27.0-34.2)	10.9 (5.8-15.9)
Did not use any tobacco product	3939	62.5 (59.8-65.3)	28.5 (25.3-31.7)	9.0 (7.3-10.6)
Used e-cigarettes	502	60.0 (54.0-66.1)	30.1 (26.6-33.5)	9.9 (5.2-14.6)
Did not use e-cigarettes	3807	63.1 (60.5-65.7)	28.4 (25.2-31.6)	8.5 (6.7-10.3)
Used a combustible product	113	46.4 (35.4-57.3)	37.6 (25.7-49.5)	16.1 (8.8-23.3)
Did not use a combustible product	4372	62.5 (59.8-65.1)	28.6 (25.5-31.6)	9.0 (7.1-10.8)

Table 25 presents whether high school students reported feeling connected to a teacher or any adult on campus based on product type and use. Similar to school connectedness, more students reported feeling connected to an adult on campus at higher rates than those who did not regardless of tobacco use. Those who used a combustible product were more likely to feel disconnected with school staff compared to other students; however, it should be noted that this group had the smallest sample size with the highest rate of students declining to answer.

Table 25. Proportion of high school students who felt connected to a teacher or any adult on campus by tobacco product use status

		Agree	Disagree	Declined to answer
	N	% (95% CI)	% (95% CI)	% (95% CI)
Used any tobacco product	546	59.4 (53.6-65.2)	29.3 (22.1-36.4)	11.3 (6.0-16.6)
Did not use any tobacco product	3934	67.2 (62.0-72.5)	23.7 (19.1-28.3)	9.1 (7.3-10.8)
Used e-cigarettes	499	60.2 (54.2-66.2)	29.5 (22.8-36.2)	10.3 (5.4-15.2)
Did not use e-cigarettes	3804	68.1 (62.6-73.5)	23.4 (18.6-28.3)	8.5 (6.6-10.4)
Used a combustible product	113	47.8 (40.2-55.5)	34.3 (21.7-46.9)	17.8 (8.8-26.9)
Did not use a combustible product	4364	66.7 (61.5-72.0)	24.2 (19.3-29.0)	9.1 (7.3-10.9)

CHAPTER 7: Physical Health

Highlights

- The majority of high school students (54.8%) in Santa Clara County do not usually walk home from school.
- Many high school students in Santa Clara County reported drinking soda (28.2%) or a sweetened fruit drink, sports drink, or energy drink (36.4%) the previous day.

Physical Activity among High School Students

High school students in Santa Clara County, by the county’s request, were asked the number of days they usually walked home from school per week, and Table 26 shows that the majority of students do not walk home from school (54.8%). For those who walked home from school, there was no significant difference between those who walked 1–3 days and 4–5 days (13.9% and 21.5%, respectively).

Table 26. Number of day(s) usually walked home from school

		0 days	1–3 days	4–5 days	I prefer not to answer
	N	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
High school students	4543	54.8 (42.6-66.9)	13.9 (10.5-17.2)	21.5 (13.9-29.1)	9.9 (7.7-12.1)

Sugary Drink Consumption among High School Students

Santa Clara County also augmented the CSTS with additional questions that asked whether students drank sugary drinks, sodas, or sweetened drinks in the past day. Students were asked, “How many glasses or cans of soda that contain sugar, such as Coke, did you drink yesterday? Do not include diet soda.” Almost two-thirds of all high school students (62.2%) reported not drinking any soda, and 28.2% of students reported drinking one or more sodas in the past day (data not shown). When comparing results from the Santa Clara Obesity Report, which shows that more than half of high school students consumed one or more glasses or cans of soda in the previous day in 2007–08,⁸ CSTS data implies that soda consumption has decreased since then.

Table 27 shows that the majority of students reported not drinking any soda, while very few students reported drinking three or more sodas in the past day. Furthermore, there were no significant differences between the number of sodas students drank and their tobacco use status.

Table 27. Number of sodas consumed in a day by tobacco use status

	Never users	Ever users
	N=3111	N=1404
	% (95% CI)	% (95% CI)
None	65.4 (60.6-70.3)	56.5 (49.5-63.5)
1–2 drinks	24.5 (20.7-28.2)	26.7 (22.7-30.7)
3 or more drinks	2.7 (1.7-3.6)	3.9 (3.2-4.7)
I prefer not to answer	7.4 (6.1-8.8)	12.8 (7.7-18.0)

Note: Does not include diet sodas

Responses to a related question that asked students how many sweetened fruit drinks, sports drinks, or energy drinks they had consumed during the past day revealed that over half of students (53.4%) reported not drinking any, while 36.4% of students reported drinking 1 or more sweet drinks in the past day (data not shown). Table 28 shows how many sweet drinks high school students drank by tobacco use status. High school students who had ever used a tobacco product were generally more likely to have consumed sweet drinks in the past day compared to never users. Of note, a high percentage of ever users declined to identify the number of sweet beverages they drank in the past day.

Table 28. Number of sweetened fruit drinks, sports drinks, or energy drinks consumed in a day by tobacco use status

	Never users N=3114 % (95% CI)	Ever users N=1406 % (95% CI)
None	57.1 (53.5-60.7)	46.6 (39.2-54.1)
1–2 drinks	31.4 (29.0-33.9)	33.8 (29.9-37.7)
3 or more drinks	3.6 (2.5-4.7)	5.6 (4.4-6.8)
I prefer not to answer	7.9 (6.6-9.1)	14.0 (8.3-19.6)

Note: Does not include 100% fruit juices.

CONCLUSION

The smoking prevalence for Santa Clara youth, like the rest of California, has reached a historic low. Only 1.4% of high school students in Santa Clara 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 higher than 1.7%). As far as the numerical goal for tobacco control is concerned, the prevalence for each of the combustible tobacco products among high school students in Santa Clara has dropped to the level accepted by many as an end-game number. 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 Santa Clara 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 California are still smokers, which contributes to the fact that about half of high school students reported being exposed to secondhand smoke. Furthermore, many students were still offered tobacco products even though they were not users themselves. A majority 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 high school students in Santa Clara County in 2017–18 was 13.2%, which accounts for the majority of all tobacco use (13.9%). Moreover, over one-quarter of high school students, most of whom were not current users, reported that someone had offered e-cigarettes to them 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. The novel devices and plethora of flavors that come with these new products 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.

In summary, Santa Clara 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 closer 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 Santa Clara 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 – 8th Grade Tobacco Use

Highlights

- Few 8th grade students (3.5%) reported using a tobacco product in the last 30 days.
- E-cigarettes were the most prevalent product used (3.5%). The use of all other tobacco products was very low (<0.5%).
- Over one-third (37.0%) of never using 8th grade students were susceptible to using any tobacco product in the future.
- Eighth grade students reported higher rates of exposure to tobacco smoke in a room compared to e-cigarette vapor (30.6% and 17.9%, respectively).
- The majority of 8th grade students felt like they were connected to their school (68.4%) or to an adult on campus (63.4%).

The following section summarizes key tobacco use data for 8th grade students in Santa Clara County. The county non-randomly selected the majority of middle schools and did not adhere to the statewide middle school sampling strategy. Therefore, data for 8th grade students must be interpreted cautiously.

Tobacco Use among 8th Grade Students

Current tobacco use rates among 8th grade students are significantly lower than those of high school students; overall, 3.5% of 8th grade students in Santa Clara County reported currently using a tobacco product (compared with 13.9% of high school students). Similar to high school students, e-cigarettes were the most commonly used product (3.5%) among 8th graders, and the use of traditional tobacco products was very low (<0.5%). Due to small sample size and high variance, we cannot determine whether differences are due to chance alone.

Table 29. Prevalence of tobacco product and use among 8th grade students

	Current use N=2032 % (95% CI)
Overall	3.5 (0.7-6.2)†
E-cigarettes	3.5 (0.9-6.1)†
Cigarettes	0.3 (0.0-0.5)†
LCC	0.4 (0.0-0.9)†
Big cigars	0.2 (0.0-0.4)†
Hookah	0.2 (0.0-0.5)†
Smokeless	0.2 (0.0-0.5)†

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

Susceptibility to Tobacco Use among 8th Grade Students

Table 30 shows that over one-third (35.2%) of 8th grade students who had not tried a tobacco product were susceptible to trying one in the future (see Definitions Used in this Report). This was a slightly lower percentage than that of high school students (40.1%). Eighth grade students were most susceptible to e-cigarettes (26.9%) and cigarettes (22.7%).

Table 30. Prevalence of susceptibility to future product use among never using 8th grade students

	Never users of the product	
	N	% (95% CI)
Overall	1744	35.2 (29.1-41.4)
E-cigarettes	1580	26.9 (20.0-33.8)
Cigarettes	1810	22.7 (17.6-27.8)
LCC	1823	16.2 (13.2-19.3)
Big cigars	1884	11.7 (9.4-14.1)
Hookah	1847	18.7 (13.9-23.5)
Smokeless	1895	10.4 (7.5-13.2)

Secondhand Exposure to Vapor and Smoke among 8th Grade Students

Table 31 reports 8th grade students' exposure to secondhand vapor or smoke in a room (see Definitions Used in this Report). Overall, 8th grade students reported greater exposure to cigarette and LCC smoke in a room compared to e-cigarette vapor in a room (30.6% and 17.9%, respectively), and greater exposure to smoke or vapor in a room than in a car.

Table 31. Prevalence of exposure in the last 30 days to e-cigarette vapor or tobacco* smoke by location among 8th grade students

Exposure to e-cigarette vapor	N	Any in the last 30 days	
		% (95% CI)	
Overall	1918	19.3 (15.5-23.1)	
Room	1902	17.9 (14.6-21.2)	
Car	1904	9.7 (7.3-12.0)	
Exposure to tobacco* smoke			
Overall	1926	32.4 (26.7-38.1)	
Room	1880	30.6 (24.3-36.8)	
Car	1900	10.5 (7.5-13.4)	

*Two products: cigarettes and LCC

School Connectedness among 8th Grade Students

The majority of 8th grade students reported feeling connected to their school or to a teacher or any adult on campus (68.4% and 63.4%, respectively). There were no significant differences between feeling connected to the school and to an adult among middle school students.

Table 32. Overall connectedness to the school and to a teacher or adult on campus among 8th grade students

	N	Agree	Disagree	Declined to answer
		% (95% CI)	% (95% CI)	% (95% CI)
School connectedness	1928	68.4 (61.5-75.4)	23.5 (18.4-28.5)	8.1 (5.1-11.1)
Educator connectedness	1924	63.4 (56.3-70.4)	26.8 (21.5-32.1)	9.8 (6.6-13.1)

Physical Health among 8th Grade Students

Table 33 presents overall frequencies of the number of days per week that students reported usually walking home from school. Like high school students, the majority of middle school students did not typically walk home from school (57.9%).

Table 33. Number of day(s) walked home from school among 8th grade students

		0 days	1-3 days	4-5 days	I prefer not to answer
	N	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
8th grade students	1952	57.9 (45.4-70.3)	13.8 (8.6-18.9)	20.2 (12.9-27.5)	8.2 (4.8-11.6)

Table 34 shows the number of sodas or sweet drink servings that 8th grade students consumed the day before. The majority of students reported not drinking any soda (59.7%) or sweet drinks (51.4%). There were no significant differences between soda and sweet drink consumption.

Table 34. Number of sodas* and sweet drinks consumed in a day among 8th grade students**

		None	1-2 drinks	3 or more drinks
	N	% (95% CI)	% (95% CI)	% (95% CI)
Soda*	1951	59.7 (53.7-65.8)	29.0 (25.8-32.3)	3.8 (3.0-4.6)
Sweet drink**	1949	51.4 (46.7-56.0)	35.6 (32.0-39.1)	5.3 (4.0-6.7)

*Soda does not include diet soda.

**Sweet drink includes fruit drinks, sports drinks, or energy drinks. Does not include 100% fruit juices.

APPENDIX B – Marijuana

Highlights

- Over one-quarter (26.3%) of high school students in Santa Clara County reported having tried marijuana, and 13.2% reported using it in the last 30 days.

Marijuana Use among 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 35 presents the prevalence of ever and current marijuana use among high school students by demographic characteristics.

There are no significant differences when comparing current use rates between females and males (12.4% and 12.3%, respectively). Notably, students who identified their gender in another way or declined to report their gender had generally higher marijuana use rates (24.4% and 23.0%, respectively), though those differences were not statistically significant. Asian students had the lowest rates of marijuana use (5.2%) of all racial/ethnic groups. Although marijuana use increased between 10th and 12th grades (9.8% and 16.4%, respectively), the prevalence of use was not statistically higher in 12th grade relative to 10th grade.

Table 35. Prevalence of marijuana use by gender, race/ethnicity, and grade

	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	4438	26.3 (20.2-32.3)	13.2 (8.9-17.5)
Gender			
Male	1927	22.8 (17.0-28.6)	12.3 (7.7-16.8)
Female	2110	27.3 (21.2-33.3)	12.4 (8.5-16.2)
Identified in Another Way	93	40.1 (28.8-51.3)	24.4 (13.2-35.6)
Declined to Answer	260	37.8 (28.6-47.0)	23.0 (15.5-30.5)
Race/Ethnicity			
White	287	34.9 (21.7-48.2)	23.4 (10.2-36.5)
Black	45	35.0 (20.9-49.0)	22.0 (9.8-34.2)
Hispanic	1353	35.1 (29.4-40.8)	16.5 (14.4-18.6)
Asian	1867*	12.8 (9.6-15.9)	5.2 (3.8-6.6)
Other	112	36.0 (23.9-48.2)	20.0 (10.0-30.0)
Multiple	401	24.3 (19.9-28.8)	13.1 (8.7-17.5)
Declined to Answer	275	39.2 (27.3-51.1)	23.0 (15.1-30.8)
Grade			
Grade 10	2416	20.5 (14.8-26.2)	9.8 (6.2-13.4)
Grade 12	2022	31.8 (24.4-39.1)	16.4 (10.8-22.0)

Notes: Race/Ethnicity category Other includes Native Hawaiian and Other Pacific Islander, American Indian or Alaska Native, and non-standard entries.

*Asian race/ethnicity is the largest subgroup in this sample. Data must be interpreted with caution.

APPENDIX C – 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 Santa Clara 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 SH. Zhu, et al.⁹ Additional details of the statewide report can be found in the *2017–18 California Student Tobacco Survey Report* by SH. Zhu, et al.³

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. Santa Clara County augmented the survey with additional county-specific questions (see Appendix D).

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 do 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 2017–18 CSTS

Table 36 provides information about the number of schools and students that participated in the 2017–18 survey for each of the three grades. The total sample included 6,669 students from 18 schools. Grades 10 and 12 are considered high school, and grade 8 is considered middle school.

Table 36. Numbers of schools and students participating, Santa Clara County middle schools vs. high schools

	Middle schools (8 th)	High schools (10 th & 12 th)	Total
Number of schools	9	9	18
Number of students	2045	4624	6669

It should be noted that all schools in the statewide sample administered the survey in the 2017–18 academic year; however, eight schools non-randomly selected by Santa Clara County’s Tobacco-Free Communities Program surveyed in the 2018–19 academic year. This was due to the difficulty in recruiting and securing school participation throughout Santa Clara County. 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, because of 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 gathered data 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.

Santa Clara County was considered its own region (Region 21) for the statewide sample, and nine schools were represented in the final statewide dataset. However, the county did not defer to the statewide CSTS sample strategy for its county-specific report and non-randomly augmented its sample with nine additional schools. Those additional schools were not selected based on the statewide sampling strategy. Participating middle schools were encouraged to survey all 8th graders, while high schools were encouraged to survey all 10th and 12th graders.

Analysis

The 2017–18 CSTS was the first time the response option *I prefer not to answer* was included for all questions. 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 (such as gender-

identity) 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. Santa Clara County surveyed an adequate sample size to allow for county-level data. Data are weighted to account for the study's sampling design, and the weighting procedure is described elsewhere.⁹ Santa Clara County Public Health's Tobacco-Free Communities Program deferred to the statewide sampling strategy as well as non-randomly select schools in its jurisdiction. In addition, as more than 5% of California's 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 all estimates. In cases of extreme proportions (e.g., 0% or 100%), a method similar to Agresti–Coull was applied to calculate confidence intervals for these proportions.^{10,11} All estimates include 95% confidence intervals in the report. Still, caution must be used when interpreting estimations that are not accounted for by the study's design.

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). Due to the small sample sizes of Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and Other groups, they were combined in the *Other* category. The response option *I prefer not to answer* was also provided for both questions. In line with other surveys, students identifying as *Hispanic* were labeled as such regardless of the other races selected. Students selecting multiple races were grouped as *Multiple* in tables that include racial/ethnic categories.

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 37). 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 reported by CDE (10.7 vs. 3.6%, 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 ethnic diversity of Santa Clara County, and 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 37. Prevalence of race/ethnicity categories in the CSTS and CDE enrollment data

	N=6477	CSTS Sample (%)	CDE Enrollment (%)
NH-White	427	6.6	20.3
NH-Black	69	1.1	2.1
Hispanic	2040	31.5	37.8
NH-Asian	2591	40.0	35.0
NH-AI/AN	18	0.3	0.3
NH-NHOPI	63	1.0	0.5
NH-Other	99	1.5	0.4
NH-Multiple	690	10.7	3.6
Declined to Answer	480	7.4	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 38 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 69 (i.e., non-Hispanic Black who did not endorse any other racial identity). However, there were more than four 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 Native Hawaiian or Other Pacific Islanders (n=63 vs. 440, depending on the categorization strategy) and for American Indian or Alaska Natives (n=18 vs. 244).

Table 38. Prevalence of labeled and endorsed race/ethnicity

	Labeled		Endorsed	
	N=6477	(%)	N=6477	(%)
White	427	6.6	1256	19.5
Black	69	1.1	321	5.0
Hispanic	2040	31.5	2040	31.5
Asian	2591	40.0	3348	52.0
AI/AN	18	0.3	244	3.8
NHOPI	63	1.0	440	6.8
Other	99	1.5	1607	24.9
Multiple	690	10.7	0	0.0
Declined to Answer	480	7.4	771	12.0

Notes: 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 D – County-specific Questions

Participation

Santa Clara County was given the opportunity to augment the 2017–18 CSTS with additional questions at the end of the survey (see *Santa Clara County–specific Questions* below). Six questions on environmental influences, physical activity and nutrition, and school connectedness were included by request. Respondents were asked about their home type and whether they were exposed to outside smoke drifting into their homes in the past week. Students were also asked how many glasses of soda and sugary drinks they had consumed the day before and whether they walked home from school. Lastly, the county was interested in whether students felt connected to their school and teacher or any adult on campus. Surveys were available in English and Spanish, administered online, and used programmed skip logic to reduce participant burden.

Santa Clara County–specific Questions

All 18 schools received the county-specific questions. The following questions were asked of all students after the last question in the CSTS.

SANTA CLARA 1. Do you currently live in...

- A. A house that is not attached to another house
- B. An apartment, condominium, or townhouse that shares a wall with another unit
- C. Some other type of housing
- D. I don't know
- E. I prefer not to answer

SANTA CLARA 2. On how many of the past 7 days did you smell tobacco smoke from someone else's cigarette, cigar, or pipe drifting into your home from nearby apartments or from outside?

- A. 0 days
- B. 1 days
- C. 2 days
- D. 3 days
- E. 4 days
- F. 5 days
- G. 6 days
- H. All 7 days
- I. I prefer not to answer

These next questions will ask about the beverages you drank YESTERDAY, including both at meals and for snacks.

SANTA CLARA 3. How many glasses or cans of soda that contain sugar, such as Coke, did you drink yesterday? Do not include diet soda.

- A. 0
- B. 1
- C. 2
- D. 3
- E. More than 3
- F. I prefer not to answer

SANTA CLARA 4. How many glasses or cans of sweetened fruit drinks, sports drinks, or energy drinks, did you drink yesterday? Do not include 100% fruit juices.

- A. 0
- B. 1
- C. 2
- D. 3
- G. More than 3
- H. I prefer not to answer

SANTA CLARA 5. How many days a week do you USUALLY walk home from school?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4
- F. 5
- I. I prefer not to answer

SANTA CLARA 6.

How much do you agree with the following statements:	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	I prefer not to answer
A) I feel like I am part of this school	A.	B.	C.	D.	E.
B) At my school, there is a teacher or some other adult who really cares about me	A.	B.	C.	D.	E.

APPENDIX E – Supplementary Tables

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

	Ever use N=4582 % (95% CI)	Current use N=4582 % (95% CI)
Overall	33.1 (27.1-39.1)	13.9 (10.2-17.5)
E-cigarettes	31.6 (25.8-37.4)	13.2 (9.4-17.1)
Cigarettes	6.7 (4.9-8.5)	1.4 (1.1-1.7)
LCC	5.0 (3.2-6.9)	1.7 (0.7-2.6)
Big cigars	1.9 (1.2-2.7)	0.7 (0.3-1.1)
Hookah	4.9 (3.9-5.8)	0.8 (0.5-1.1)
Smokeless	1.1 (0.5-1.6)	0.3 (0.1-0.5)†

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

Table B. Proportion using flavored products among current users of a given tobacco product

	Flavored product use	
	N*	% (95% CI)
E-cigarettes	512	82.6 (78.6-86.6)
Cigarettes	54	62.9 (44.6-81.2)
LCC	56	82.3 (78.4-86.3)
Big cigars	24	74.8 (62.5-87.0)
Hookah	32	82.9 (72.4-93.5)†
Smokeless	11	68.0 (55.5-80.4)

*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 standard error is greater than 30%. Interpret with caution.

Table C. Susceptibility to future tobacco use among never users

	Never users of the product	
	N	% (95% CI)
Overall	3117	40.1 (38.4-41.8)
E-cigarettes	2952	29.9 (28.0-31.9)
Cigarettes	4042	24.4 (22.9-26.0)
LCC	4102	20.1 (18.5-21.7)
Big cigars	4275	18.9 (17.2-20.6)
Hookah	4029	32.3 (29.0-35.5)
Smokeless	4329	12.3 (11.6-13.1)

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

Vaping Ban	Complete home ban	
	N	% (95% CI)
Overall	4114	78.4 (76.5-80.2)
Never vapers	2899	82.7 (80.7-84.6)
Former vapers	662	71.5 (68.2-74.7)
Current vapers	433	63.8 (59.9-67.8)
Smoking Ban	N	% (95% CI)
Overall	4185	85.2 (83.8-86.5)
Never smokers	3873	86.0 (84.6-87.3)
Former smokers	220	78.2 (74.5-81.9)
Current users	78	71.4 (66.6-76.2)

*Tobacco smoke and corresponding use status were based on two products: cigarettes and LCC.

Table E. Prevalence of housing types in Santa Clara

	House		Multi-unit housing	Other	Not specified
	N	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Overall	4551	62.1 (51.6-72.7)	20.4 (12.7-28.2)	5.7 (3.2-8.2)	11.8 (8.8-14.8)

Abbreviations: Not specified = "I prefer not to answer" and "I don't know" answer choices.

Table F. 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	4292	37.7 (31.0-44.4)	4269	30.3 (28.7-31.9)
Exposure in a car	4297	24.1 (19.8-28.4)	4319	13.3 (11.4-15.2)

*Tobacco smoke and corresponding use status were based on two products: cigarettes and LCC.

Table G. Perceived ease of acquiring e-cigarettes and cigarettes 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%)	N	% (95% CI)
Any of the below	4306	68.3 (65.4-71.2)	2993	61.3 (59.1-63.5)	790	80.0 (75.1-84.9)	499	88.0 (84.1-91.9)
E-cigarettes	4287	63.2 (59.5-66.8)	2955	54.7 (51.8-57.7)	708	77.1 (72.1-82.1)	482	87.7 (83.7-91.7)
Cigarettes	4270	47.5 (45.3-49.7)	3966	45.6 (43.5-47.8)	199	70.5 (63.4-77.6)	46	78.2 (70.0-86.4)

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