



**Tobacco Use Among High School Students in Santa Clara County:
Findings from the 2019–20 California Student Tobacco Survey**

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INTRODUCTION

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 racial/ethnic groups. The three largest racial/ethnic groups are Asian (39.0%), White (30.6%), and Hispanic or Latino (25.0%).¹ Other racial/ethnic groups include Multiple race (i.e., Two or More Races, 4.2%), Black or African American (2.8%), American Indian or Alaska Native (1.2%), and Native Hawaiian or Other Pacific Islander (0.5%).¹

A little over 20% of Santa Clara County's population is under the age of 18.¹ In the 2019–2020 school year, 146,079 students enrolled in grades 6-12 were attending 237 schools from 33 districts.² The racial/ethnic composition of these students is also diverse, but differs from the County as a whole with the three largest racial/ethnic groups being: Hispanic or Latino (38.6%), Asian (34.2%), and White (19.2%).² The racial/ethnic composition of youth can foreshadow the County's racial/ethnic distribution in the future.

This report presents the main results from a school-based survey: the 2019–2020 California Student Tobacco Survey (CSTS). It reports findings from the 2019–20 CSTS that are specific to Santa Clara County, including results based on the statewide survey, as well as additional questions specifically requested by the County of Santa Clara 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—wherein the use of cigarettes, vapes, and their co-use with marijuana is in flux. The findings presented in this report can assist the development of tobacco-control interventions to reduce tobacco use and secondhand exposure among youth in Santa Clara County.

EXECUTIVE SUMMARY

This report summarizes the main findings from the 2019–20 California Student Tobacco Survey (CSTS) for Santa Clara County. The survey was administered to 8th, 10th, and 12th grade students from September 2019 to March 2020. Schools were randomly selected within Santa Clara County. Survey administration was planned to end in April 2020 but ended in March 2020 as schools across the state began to close due to the COVID-19 pandemic. While closures occurred on different dates, most schools closed between March 13-18, 2020.³ Despite school closures, administration of the survey was considered complete as the majority of schools sampled for the survey had completed it prior to the closures. Throughout the 2019–20 academic year, 8,276 students from 14 schools (12 high and two middle) in Santa Clara County participated in the survey. The survey was administered online during the school day at each of the schools by the University of California San Diego (UC San Diego).

The survey was designed to assess the use of, knowledge of, and attitudes towards cigarettes and other tobacco products, including vapes, little cigars or cigarillos (LCC), big cigars, hookah, smokeless tobacco, and heated tobacco products (HTP). The survey included questions that assessed the use of each tobacco product, the use of flavors, perceptions of vaping and smoking, social and environmental exposure to products, access to vapes and cigarettes, and factors known to be associated with use. Marijuana was also included in the survey since the co-use of marijuana and tobacco products is common, and potentially of concern given the intersection of vaping nicotine and vaping marijuana. Please note that a List of Terms with definitions is provided in the subsequent section of this report.

The CSTS focuses mainly on high school students, with 8th grade students sampled in smaller numbers (please see Appendix B for more information). As a result, this report focuses on high school students (10th and 12th graders; 7,715 students). Key results for 8th graders (561 students), who were sampled separately from 10th and 12th graders, are presented in Appendix A.

Key Findings

Tobacco Use Behavior

- In 2019-20, 25.3% of high school students in Santa Clara had ever used any tobacco product and 8.6% used tobacco in the last 30 days.
- The current cigarette smoking prevalence rate in Santa Clara reached a historical low, as only 1.0% of students reported currently smoking cigarettes.
- The use of all other combustible tobacco products among high school students was also very low. In 2019-20, the prevalence of current use was 1.5%, 0.4%, and 0.5% for little cigars or cigarillos (LCC), big cigars, and hookah, respectively.
- Vapes were the most popular tobacco product, with 23.0% of high school students having ever used them and 7.7% being current users.

- Use of multiple tobacco products was common, representing one-fifth (20.9%) of current tobacco users.
- Students who rated their mental health as poor had over twice the current tobacco use prevalence (14.7%) of those who rated their mental health as good to excellent (6.7%).
- More than half of vapers were infrequent users: 55.0% of current vapers reported using vapes on either 1-2 days or 3-5 days in the last 30 days. Less than a quarter (23.6%) of current vapers used vapes on 20 or more days in the past 30 days.
- The vast majority of current tobacco users reported using a flavored tobacco product (93.1%), with flavored vape and hookah use being the highest (96.3% and 83.4%, respectively). About half of current cigarette smokers (52.6%) reported using menthol cigarettes in the last 30 days. Flavored tobacco product use was high across all genders, races/ethnicities, and grades. *Fruit* was the most popular flavor reported for vapes.

Perceptions of Vaping and Smoking

- The majority of students (88.2%) believed that the reason people their age used vapes with nicotine or just flavoring was because their friends did.
- Almost all students believed that adults who were important to them would feel negatively about the student vaping (97.2%) and smoking cigarettes (97.6%).
- While the majority of students believed their close friends and other students at school viewed smoking cigarettes negatively (93.2% and 82.6%, respectively), fewer students believed vaping was perceived negatively by close friends and other students (76.9% and 44.1%, respectively).

Secondhand Exposure and Other Environmental Influences

- Most high school students in Santa Clara County reported having complete home ban on vaping (86.7%) and tobacco smoking (87.6%).
- Despite high rates of home bans, the rate of exposure to secondhand vapor was still high: close to one in three students were exposed to secondhand vapor (29.3%) in a room in the last 2 weeks. The rate of exposure to secondhand tobacco smoke (7.4%) in a room was lower.
- Students reported higher rates of smelling tobacco smoke (19.8%) drifting into their home than vapor (8.7%) in the last 2 weeks.
- Less than one in four students reported that their parent or guardian had talked to them about the risks of vape (24.1%) and cigarette use (19.8%) in the last 30 days.
- A substantial percentage of students were exposed to advertisements related to vapes (71.2%) and cigarettes (53.0%) in the last 30 days. About one in six of those ads were perceived by students as promoting the use of these products and over three in five were perceived as discouraging their use.

Access to Vapes and Cigarettes

- Among current vapers, about half (47.1%) reported not paying for their vapes and half (52.9%) reported paying for them.
- Out of those who did not pay for their vapes, about half (54.7%) reported being given them. Out of those who did pay for their vapes, 40.9% reported buying them from someone and 22.4% reported buying them from the store themselves.
- Among those who reported buying from a store, *vape shops* (35.6%) and *tobacco or smoke shops* (35.4%) were the most popular store types for purchasing vapes.
- Among current cigarette smokers, 56.5% did not pay for their cigarettes and 43.5% did.
- Out of those who did not pay for their cigarettes, 41.7% reported being given them. Out of those who did pay for their cigarettes, 22.5% reported buying them from someone and 54.9% reported buying them from the store themselves.
- Nearly one-third (31.3%) of students who lived within walking distance of stores that sold either vapes or cigarettes had visited one in the last 30 days.
- Over one-quarter (26.3%) of all students in Santa Clara County were offered a vape in the last 30 days, with one in six (17.2%) who had never used vapes having been offered one. Fewer students reported offers of cigarettes in the last 30 days (3.6%).

Marijuana and Tobacco Co-Use

- More than one-quarter (27.4%) of high school students in Santa Clara County reported having tried marijuana, while 13.4% reported using it in the last 30 days.
- The rate of currently using marijuana (13.4%) was higher than that of all tobacco products (8.6%).
- Close to half (47.0%) of current marijuana users co-used marijuana with a tobacco product.
- Over one-quarter (26.3%) reported smelling marijuana smoke drifting into their home in the last 2 weeks.

LIST OF TERMS

Tobacco Products and Marijuana

Vapes: Electronic devices like vape pens, e-cigarettes, e-hookah, hookah pens, e-vaporizers, tanks, pods, or mods used to inhale a vapor. Can be used to vape many things, like nicotine, marijuana, or just flavoring. Popular brands are Juul, Suorin, SMOK, Starbuzz E-Hookah, Zodiac Constellation, Stiiizy, Brass Knuckles, and Heavy Hitters. Questions about hookah pens were asked separately to ensure that students who reported using a hookah pen, but not a vape were captured. For prevalence estimates in this report, vape use included students who reported vaping or using a hookah pen with nicotine or just flavoring (not vaping marijuana).

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

Little cigars or cigarillos (LCC): Tobacco wrapped in tobacco leaf or brown paper, about the size of a cigarette. May be flavored. Popular brands are Swisher Sweets, Backwoods, Dutch Masters, Captain Black, Prime Time, White Owl, and Black & Mild. Little cigars or cigarillos were abbreviated to LCC throughout this report.

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

Hookah: Water pipe used to smoke tobacco (shisha) or something else. Popular brands are Starbuzz, Al Fakher, Samba, Fumari, Nakhla, and Social Smoke.

Smokeless tobacco (chew, dip, snuff, or snus): Loose leaf or ground tobacco leaves that come 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 was abbreviated to smokeless throughout this report.

Heated tobacco products (HTP; also known as heat-not-burn tobacco products): Tobacco in the form of heat-sticks or capsules that is heated, instead of being combusted or burned, using an electronic device. These are different from vapes because they include tobacco. Popular brands include iQOS, glo, and Ploom Tech. For prevalence estimates in this report, HTP use was limited to students who reported the use of a known HTP brand because of 1) the possible confusion among respondents in differentiating HTP from vapes; and 2) the limited and identifiable number of HTP brands at the time of survey administration. Heated tobacco products were abbreviated to HTP throughout this report.

Marijuana (including joints, blunts, vapes, and edibles): Commonly known as cannabis, weed, pot, hash, grass, THC, or CBD. It can be smoked (joint, blunt, bong), vaped, eaten (baked goods, candies), drunk (tea, cola, alcohol), or dabbed. For prevalence estimates in this report, marijuana use included students who reported using marijuana in any of these ways. It also included those who reported using marijuana “in some other way.”

Product Use

Ever use: Used within a lifetime.

Current use: Used within the last 30 days.

Poly use: Used two or more tobacco products within the last 30 days.

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

Mint/menthol flavored product use: Used any menthol-flavored cigarettes (the only flavor available for cigarettes) or used mint flavor most often when using any other flavored tobacco product within the last 30 days.

Co-use: Used marijuana and at least one tobacco product within the last 30 days. For this report, co-use was not limited to the simultaneous use of products.

Never user: A student who reported never using the tobacco product(s).

Former user: A student who reported ever using the tobacco product(s), but not within the last 30 days (this included those who had quit using).

Current user: A student who reported using the tobacco product(s) within the last 30 days.

Other Terms

Identified in another way: Respondents who reported their gender identity as:

- *female-to-male (FTM)/transgender male/trans man;*
- *male-to-female (MTF)/transgender female/trans woman;*
- *genderqueer, neither exclusively male nor female; or*
- *additional gender category or other.*

Sexual and/or gender minority (SGM): Respondents who were categorized as identifying their gender in another way (see above definition) and/or reported their sexual orientation as:

- *lesbian, gay, or homosexual;*
- *bisexual;*
- *something else; or*
- *did not know their sexual orientation.*

Non-SGM: Respondents who reported:

- their gender identity as *male / female;* and
- their sexual orientation as *straight or heterosexual.*

Unclear SGM status: Respondents who did not provide enough information about their gender identity and/or sexual orientation to classify their SGM status. This included those who:

- identified as binary (*male / female*) / chose not to disclose their gender identity, and did not know / chose not to disclose their sexual orientation; or

- chose not to disclose their gender identity, and identified their sexual orientation as *straight or heterosexual*.

Hispanic: Responded *yes* to the ethnicity question: “Are you of Spanish or Hispanic (Latino or Latina) origin?”, regardless of race(s) reported.

Non-Hispanic single race (American Indian or Alaska Native [AI/AN]; Asian; African American/Black; Native Hawaiian or Other Pacific Islander [NHOPi]; White): Responded *no* to the ethnicity question (see above definition) and reported one of the following races: *American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; or White*, when asked “How do you describe yourself?”

Multiple race: Responded *no* to the ethnicity question and reported two or more races.

Other race: Responded *no* to the ethnicity question and reported *Other* race. Non-Hispanic AI/AN and NHOPi were also categorized as Other race due to the small sample sizes.

General mental health: Responded good to excellent (*good, very good, or excellent*), *fair*, or *poor* to the question: “In general, how would you rate your mental health?”

Complete home ban on vaping: Indicated that *vaping is not allowed anywhere or at any time inside my home* when asked about the rules about vaping inside their home.

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

Exposure to secondhand vapor in a room: Indicated being in a room *when someone was using a vape* in the last 2 weeks.

Exposure to secondhand vapor in a car: Indicated being in a car *when someone was using a vape* in the last 2 weeks.

Exposure to secondhand tobacco smoke in a room: Indicated being in a room *when someone was smoking a cigarette, little cigar, or cigarillo* in the last 2 weeks.

Exposure to secondhand tobacco smoke in a car: Indicated being in a car *when someone was smoking a cigarette, little cigar, or cigarillo* in the last 2 weeks.

Offers of tobacco products: Responded *yes* to the question: “In the last 30 days, has ANYONE offered you” tobacco products (vapes or cigarettes).

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

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

- Among high school students in Santa Clara County, 25.3% had ever used any tobacco product in their lifetime, with 8.6% classified as current users (i.e., used in last 30 days).
- Vapes were the most popular tobacco product, with 23.0% of students having ever used them and 7.7% classified as current users.
- Only 4.7% of students reported ever smoking cigarettes, with 1.0% classified as current smokers.
- Rates of current use for any other tobacco product were less than 2%, with little cigars or cigarillos (LCC) being the most prevalent combustible tobacco product (1.5%).
- More than half of current vapers reported using vapes infrequently.
- One-fifth (20.9%) of current tobacco users reported using more than one tobacco product.
- Students who rated their mental health as poor had over twice the current tobacco use prevalence (14.7%) compared to those who rated their mental health as good to excellent (6.7%).

Tobacco Product Categories

Since the previous survey in 2017-18, e-cigarette devices and the language used to refer to these devices changed rapidly. To increase the validity of these questions, the term “e-cigarette” was replaced with “vape” in the 2019-20 CSTS. The accompanying image and definition of vapes were also updated to include common devices and brands. Since these devices can be used to vape different substances, the survey included separate questions on vaping nicotine, marijuana, and just flavoring (i.e., without nicotine or marijuana) to determine prevalence estimates. Some questions asked about vapes more generally (e.g., questions about perceptions, exposure to secondhand vapor). Questions about hookah pens were asked separately to ensure that students who reported using a hookah pen, but not a vape were captured. For the prevalence estimates included in this report, vape use included students who reported vaping or using a hookah pen with nicotine or just flavoring. Due to the changes to this measure, vape data presented in this report are not directly comparable to e-cigarette data from earlier CSTS cycles.

Heated tobacco products (HTP), new to the U.S. market in 2019, were included in the 2019-20 CSTS for the first time. Only those users who reported the use of a known HTP brand were defined as HTP users because of 1) the possible confusion among respondents in differentiating HTP from

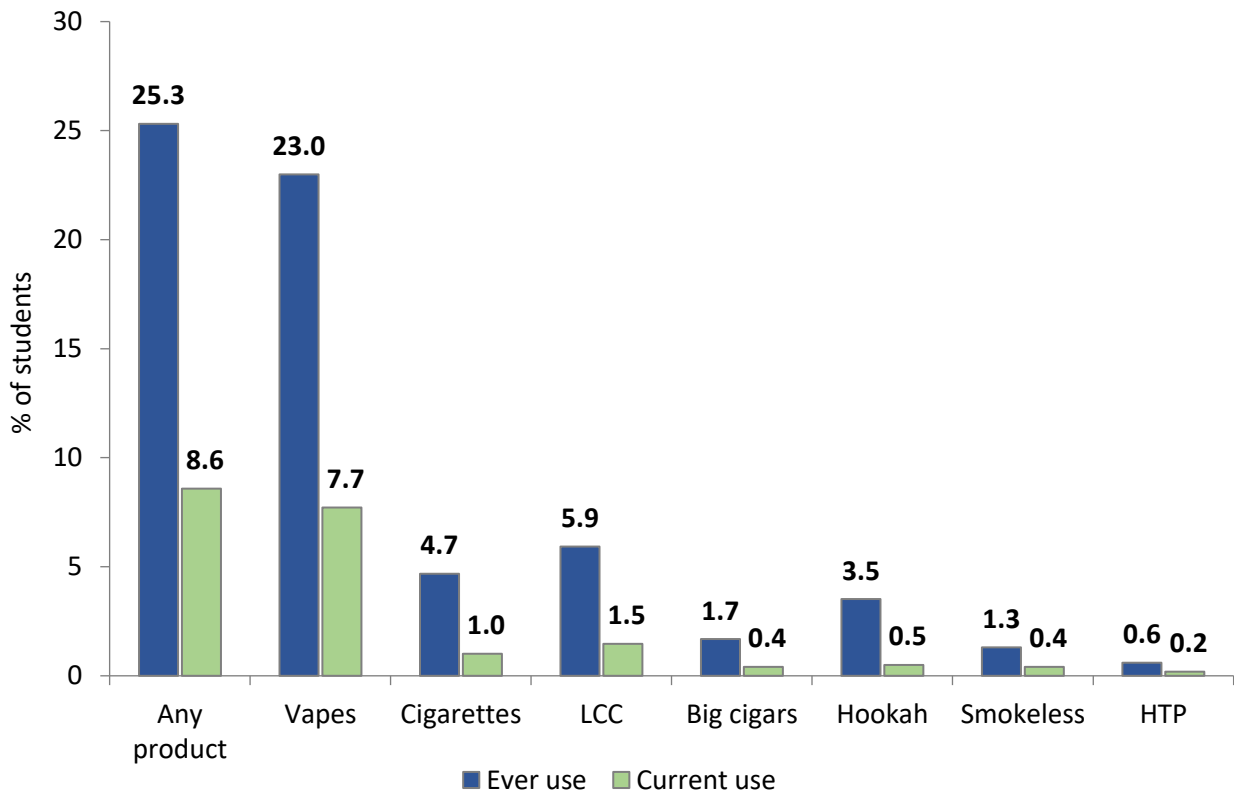
vapes; and 2) the limited and identifiable number of HTP brands at the time of survey administration.

Tobacco Product Use Among High School Students

Figure 1 presents ever and current use of tobacco products among high school students. *Ever* use is defined as use within a lifetime and *current use* is defined as use within the last 30 days. In Santa Clara County, 25.3% of high school students had tried any tobacco product, while 8.6% reported currently using a tobacco product. In both cases, the vast majority of use was attributed to vapes, with 23.0% of students having ever vaped and 7.7% currently using the product. By contrast, only 4.7% of students had ever tried cigarettes, with 1.0% currently smoking them. Rates of current use for all other tobacco products were less than 2%, with LCC being the most prevalent combustible tobacco product (1.5%).

Due to the low prevalence of use for all tobacco products besides vapes and the resulting instability of estimates, subgroup analyses in this report were limited. Specifically, HTP was not reported in subgroup analyses and, in some cases, only vape data were reported. However, HTP use was included in the overall estimates of tobacco use.

Figure 1. Prevalence of ever and current use of tobacco products among high school students



Note: Refer to Table A in Appendix C - Supplementary Tables to view estimates with confidence intervals. Abbreviations: LCC = little cigars or cigarillos; HTP = heated tobacco products.

Demographic Categories

For race/ethnicity, survey participants were first grouped by whether they were of *Spanish or 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 or Other Pacific Islander, American Indian or Alaska Native*, and non-standard entries were all combined in the *Other* category in this report.

For the question on gender, the following response options were provided in addition to *male* and *female*: *female-to-male (FTM)/transgender male/trans man; male-to-female (MTF) /transgender female/trans woman; genderqueer, neither exclusively male nor female; and additional gender category or other*. Students could also select *choose not to disclose*. For this report, response options other than *male, female, and choose not to disclose* were combined and classified as *identified in another way* due to the small sample sizes. Approximately 2.3% of participating students in Santa Clara County indicated that they identified their gender in a way other than *male or female*, and 2.7% declined to answer the gender-identity question.

It should be noted that the previous, 2017-18 CSTS included an option for I prefer not to answer throughout the survey, with the percentages of students endorsing this option varying considerably. In the 2019-20 CSTS, this response option was removed from all questions except those asking about students' gender identity and sexual orientation. As a result, data on demographic subgroups presented in this report are not directly comparable to those from the 2017-18 CSTS.

Prevalence of Tobacco Use by Demographics

Table 1 presents high school student tobacco use prevalence, both ever and current use, by participant demographics. By gender, use of tobacco products tended to be higher for female students than for male students. Students who identified their gender in another way had a significantly higher rate of current tobacco use (25.5%) compared to other gender subgroups.

There were racial/ethnic differences in tobacco use. Students who identified as Other race/ethnicity had the highest rate of current use (13.8%) compared to all other racial/ethnic subgroups. Students who were Hispanic had the second-highest rate of current use (10.1%), followed by those who were White or Multiple race (9.7% and 8.7%, respectively). Asian and Black students had the lowest rates of current use (5.6% and 4.5%, respectively).

Not surprisingly, tobacco use was higher among 12th graders (10.7%) compared to 10th graders (6.6%).

Table 1. Prevalence of tobacco use by gender, race/ethnicity, and grade among high school students

	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	7713	25.3 (21.5-29.1)	8.6 (7.1-10.1)
Gender			
Male	3554	21.8 (17.2-26.5)	6.5 (5.1-8.0)
Female	3692	27.6 (24.5-30.7)	9.2 (7.8-10.5)
Identified in Another Way	180	36.3 (28.1-44.5)	25.5 (19.3-31.8)
Declined to Answer	209	29.3 (25.7-33.0)	12.5 (7.4-17.5)
Race/Ethnicity			
White	1028	27.9 (20.3-35.6)	9.7 (6.8-12.5)
African American/Black	116	17.9 (9.8-26.0)	4.5 (1.5-7.5)†
Hispanic	2483	31.7 (28.5-34.9)	10.1 (8.4-11.9)
Asian	2956	16.8 (13.6-20.1)	5.6 (3.9-7.3)
Other	283	29.9 (25.2-34.7)	13.8 (11.9-15.6)
Multiple	748	25.1 (19.8-30.3)	8.7 (6.0-11.4)
Grade			
Grade 10	4439	20.1 (16.7-23.5)	6.6 (5.1-8.0)
Grade 12	3274	30.7 (26.6-34.8)	10.7 (9.2-12.1)

Note: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

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

Use of Specific Tobacco Products by Demographics

Table 2 shows the rate of overall tobacco use, as well as the use of specific tobacco products, by gender. Students who identified in another way or declined to answer the gender-identity question generally had higher overall use rates relative to male and female students. Differences in specific tobacco product use by gender tended to replicate differences in overall rates of use (i.e., those who had higher rates of overall tobacco use were also the ones who had higher rates of specific product use). For example, those who identified their gender in another way reported using vapes at higher rates compared to male and female students.

Table 2. Prevalence of current tobacco product use by gender among high school students

	Male	Female	Identified in Another Way	Declined to Answer
	N=3554	N=3692	N=180	N=209
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Any of the below	6.5 (5.1-8.0)	9.2 (7.8-10.5)	25.5 (19.3-31.8)	12.5 (7.4-17.5)
Vapes	6.0 (4.6-7.4)	8.4 (7.2-9.5)	18.9 (13.1-24.6)	10.7 (6.3-15.0)
Cigarettes	0.7 (0.5-1.0)	0.7 (0.4-1.1)	9.3 (5.7-12.8)	3.2 (0.4-6.0)†
LCC	1.2 (0.6-1.8)	1.1 (0.6-1.5)	10.4 (7.4-13.4)	4.1 (1.2-6.9)†
Big cigars	0.2 (0.1-0.3)	0.2 (0.0-0.4)†	7.0 (5.6-8.5)	2.5 (0.0-5.3)†
Hookah	0.2 (0.0-0.3)†	0.3 (0.1-0.6)†	7.9 (5.8-10.0)	3.0 (1.1-4.9)†
Smokeless	0.2 (0.1-0.3)	0.1 (0.0-0.2)†	7.1 (5.6-8.5)	3.3 (0.5-6.2)†

Abbreviations: LCC = little cigars or cigarillos.

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

Table 3 presents the current use of tobacco products by race/ethnicity. Differences in the use of specific tobacco products tended to replicate differences in overall rates of use. Vapes were the most popular tobacco product used for all racial/ethnic groups.

Table 3. Prevalence of current tobacco product use by race/ethnicity among high school students

	White	African American/Black	Hispanic	Asian	Other	Multiple
	N=1028	N=116	N=2483	N=2956	N=283	N=748
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Any of the below	9.7 (6.8-12.5)	4.5 (1.5-7.5)†	10.1 (8.4-11.9)	5.6 (3.9-7.3)	13.8 (11.9-15.6)	8.7 (6.0-11.4)
Vapes	8.7 (6.2-11.2)	4.5 (1.5-7.5)†	8.8 (7.2-10.3)	5.4 (3.8-7.1)	13.1 (10.9-15.2)	7.6 (5.3-10.0)
Cigarettes	1.1 (0.6-1.6)	0.0	1.6 (1.1-2.0)	0.3 (0.1-0.4)†	2.5 (0.8-4.3)†	0.7 (0.0-1.6)†
LCC	1.0 (0.4-1.5)	0.0	2.6 (2.0-3.2)	0.5 (0.1-0.8)†	2.3 (0.4-4.1)†	0.9 (0.0-1.9)†
Big cigars	0.4 (0.0-0.9)†	0.0	0.6 (0.2-1.0)†	0.1 (0.0-0.2)†	2.0 (0.4-3.6)†	0.2 (0.0-0.6)†
Hookah	0.3 (0.0-0.8)†	0.0	0.7 (0.5-1.0)	0.1 (0.0-0.3)†	2.6 (0.7-4.6)†	0.6 (0.1-1.2)†
Smokeless	0.3 (0.1-0.6)†	0.0	0.6 (0.4-0.9)	0.1 (0.0-0.2)†	1.5 (0.0-3.0)†	0.4 (0.0-0.8)†

Note: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

Abbreviations: LCC = little cigars or cigarillos.

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

Table 4 presents the current use of tobacco products by grade among high school students. In general, use of specific tobacco products tended to be higher among 12th graders compared to 10th graders, except for big cigars and hookah. Vapes were consistently the most popular product used by both 10th and 12th grade students, and the prevalence of use of all other tobacco products was low.

Table 4. Prevalence of current tobacco product use by grade among high school students

	Grade 10 N=4439 % (95% CI)	Grade 12 N=3274 % (95% CI)
Any of the below	6.6 (5.1-8.0)	10.7 (9.2-12.1)
Vapes	5.9 (4.5-7.3)	9.6 (8.4-10.9)
Cigarettes	0.8 (0.5-1.2)	1.2 (0.8-1.6)
LCC	1.3 (1.0-1.5)	1.7 (1.0-2.4)
Big cigars	0.4 (0.3-0.6)	0.4 (0.1-0.6)†
Hookah	0.5 (0.3-0.7)	0.5 (0.3-0.7)
Smokeless	0.3 (0.1-0.5)	0.5 (0.3-0.7)

Abbreviations: LCC = little cigars or cigarillos.

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

Use of Specific Tobacco Products by Sexual and/or Gender Minority Status

Students were asked to indicate their sexual orientation and gender identity in two separate questions. Using responses from these questions, three groups were created: a sexual and/or gender minority (SGM) group, a non-SGM group, and an unclear SGM status group (see List of Terms). Table 5 presents current tobacco product use by SGM status. Students who identified as SGM had higher rates of overall tobacco use (15.9%) than those who did not identify with this group (7.2%) and those of unclear SGM status (7.1%). Consistent with the overall results, vapes were the most commonly used product across all groups, followed by LCC.

Table 5. Prevalence of current tobacco product use by SGM status among high school students

	SGM N=1109 % (95% CI)	Non-SGM N=5669 % (95% CI)	Unclear SGM Status N=833 % (95% CI)
Any of the below	15.9 (12.7-19.0)	7.2 (6.0-8.3)	7.1 (4.8-9.4)
Vapes	13.8 (10.7-17.0)	6.6 (5.4-7.7)	6.1 (4.2-7.9)
Cigarettes	3.4 (1.8-5.0)	0.5 (0.3-0.7)	1.1 (0.5-1.8)
LCC	2.8 (2.0-3.6)	1.1 (0.6-1.6)	1.7 (0.6-2.8)†
Big cigars	1.4 (0.9-1.8)	0.2 (0.1-0.3)	0.4 (0.0-0.9)†
Hookah	1.7 (1.1-2.4)	0.2 (0.1-0.3)†	0.9 (0.5-1.3)
Smokeless	1.6 (1.1-2.1)	0.2 (0.1-0.3)†	0.4 (0.0-0.8)†

Abbreviations: LCC = little cigars or cigarillos.

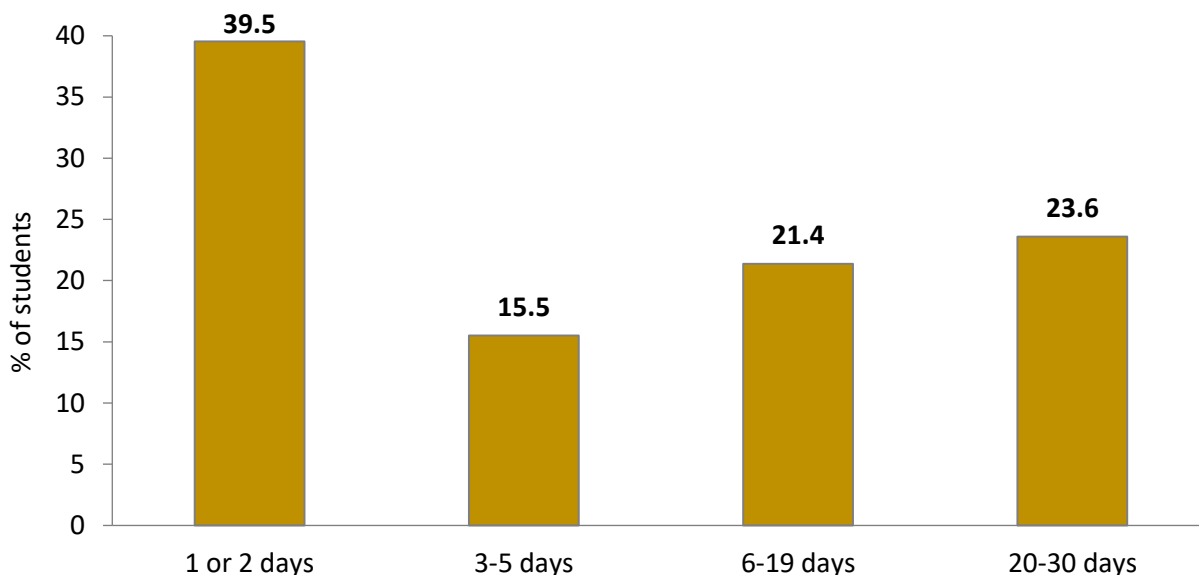
†Data are statistically unreliable because relative variance is greater than 30%. Interpret with caution.

Frequency of Current Vape Use

The 2019-20 CSTS asked current users of a tobacco product to indicate how many days they used the product within the last 30 days. Figure 2 presents the frequency of vape use among current vapers. Data were restricted to vapes due to the small sample sizes and resulting instability of estimates for other tobacco products.

More than half of current vapers reported infrequent usage: 55.0% reported using a product 1–2 days or 3–5 days (39.5% + 15.5% = 55.0%) in the last 30 days. Less than one-quarter (23.6%) of current vapers used vapes on 20 or more days in the past 30 days.

Figure 2. Frequency of current vape use among those high school students who were current vapers



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

Multiple Tobacco Product Use

Table 6 presents the current use of multiple products, often referred to as poly use, by participant demographics. Overall, 1.8% of students reported using two or more tobacco products, representing 20.9% of current users. Differences in poly use by demographic characteristics varied in ways one would expect based on tobacco use behavior (i.e., those who had higher rates of using specific products were also the ones who had higher rates of poly use). For example, those who identified their gender in another way had higher rates of poly use than other gender groups.

Table 6. Prevalence of current use of at least one product and of multiple tobacco products by gender, race/ethnicity, and grade among high school students

	N	Used at least one product % (95% CI)	Used two or more tobacco products % (95% CI)
Overall	7713	8.6 (7.1-10.1)	1.8 (1.4-2.3)
Gender			
Male	3554	6.5 (5.1-8.0)	1.5 (0.9-2.0)
Female	3692	9.2 (7.8-10.5)	1.4 (1.0-1.8)
Identified in Another Way	180	25.5 (19.3-31.8)	12.2 (9.7-14.7)
Declined to Answer	209	12.5 (7.4-17.5)	5.5 (1.8-9.3) [†]
Race/Ethnicity			
White	1028	9.7 (6.8-12.5)	1.8 (0.9-2.7)
African American/Black	116	4.5 (1.5-7.5) [†]	0.0
Hispanic	2483	10.1 (8.4-11.9)	2.8 (2.1-3.5)
Asian	2956	5.6 (3.9-7.3)	0.6 (0.2-0.9)
Other	283	13.8 (11.9-15.6)	3.7 (2.0-5.4)
Multiple	748	8.7 (6.0-11.4)	1.6 (0.0-3.4) [†]
Grade			
Grade 10	4439	6.6 (5.1-8.0)	1.5 (1.1-1.9)
Grade 12	3274	10.7 (9.2-12.1)	2.2 (1.6-2.7)

Note: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

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

Tobacco Use by General Mental Health

Table 7 presents students ever and current tobacco use according to reported general mental health (see List of Terms). Students who rated their mental health as poor had the highest rate of current tobacco use (14.7%), followed by those who rated their mental health as fair (9.9%). Students who rated their mental health as good to excellent had the lowest current use rate (6.7%).

Table 7. Prevalence of tobacco use by general mental health among high school students

	N	Ever use % (95% CI)	Current use % (95% CI)
Good to excellent	4766	21.3 (17.8-24.8)	6.7 (5.5-7.8)
Fair	1907	30.0 (25.6-34.4)	9.9 (8.0-11.8)
Poor	973	35.9 (30.2-41.6)	14.7 (11.2-18.2)

CHAPTER 2 – Use of Flavored Tobacco Products

Highlights

- Despite some county and city restrictions on flavored tobacco product sales, the vast majority of high school students (93.1%) in Santa Clara County who were current tobacco users reported using a flavored tobacco product.
- The highest use of flavored tobacco products was among current vape (96.3%) and hookah (83.4%) users.
- About half of current cigarette smokers (52.6%) reported using menthol cigarettes in the last 30 days.
- Two-thirds (67.6%) of current vapers reported using *fruit* flavored vapes, the most frequently reported flavor among vapers.

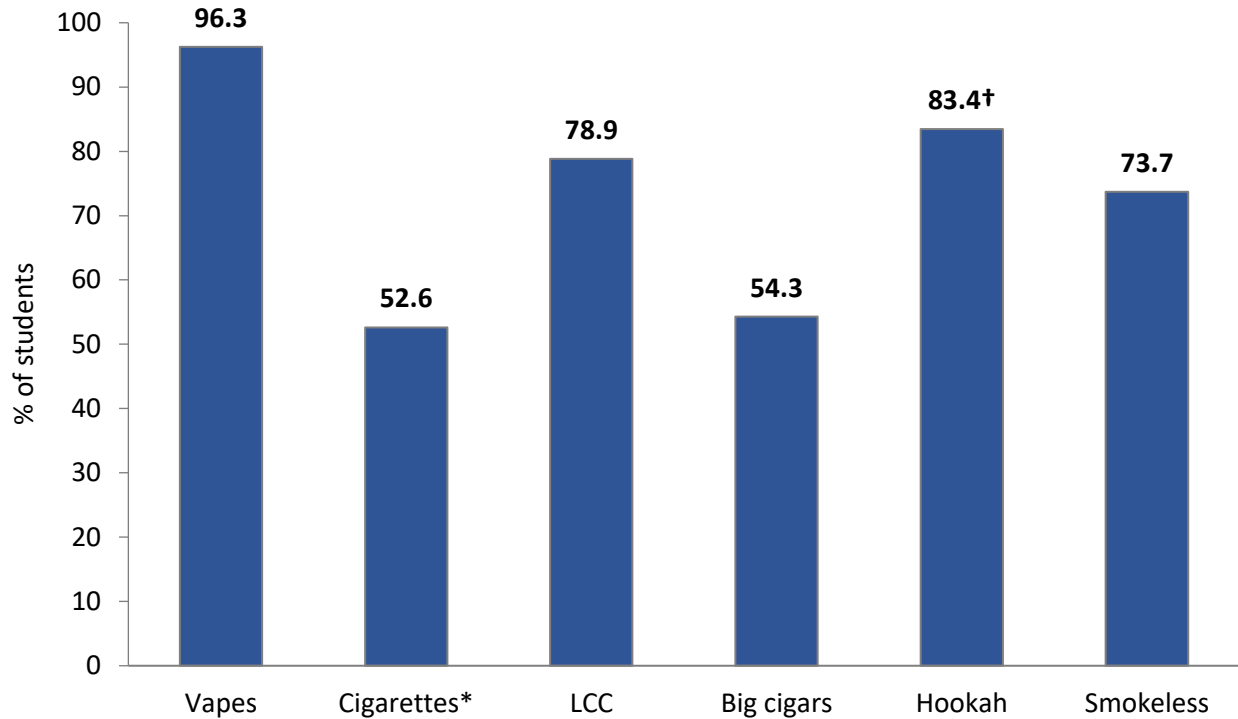
The County of Santa Clara (for unincorporated areas) and seven cities have restricted the sale of flavored tobacco products, making it increasingly difficult for some students to access flavored tobacco products. However, the largest city in the county, San Jose, does not currently have any restrictions on the sale of flavored tobacco products. To address this ongoing concern, the County of Santa Clara Public Health Department and the Tobacco-Free Coalition have launched policy and media campaigns in cities without policy protections to expose the tobacco industry and its intentional marketing toward vulnerable groups through the appeal of flavored products.

This chapter presents the proportion of current tobacco users who used flavored products. The use of flavored tobacco products is a concern because it may increase susceptibility, initiation, and progression to regular use.⁴⁻⁶ It also presents the use of specific flavors. It should be noted that the flavored vape use reported in this chapter includes students who reported using flavored vapes with nicotine or vapes with just flavoring.

Flavored Tobacco Product Use

Overall, 93.1% of students in Santa Clara County who were current tobacco users reported using a flavored tobacco product in the last 30 days (data not shown in figure). Use of flavored products was widespread across *all* tobacco products (Figure 3). The most prevalent flavored tobacco products were vapes (96.3%) and hookah (83.4%). Of note, about half of cigarette smokers (52.6%) reported using flavored cigarettes in the last 30 days, where menthol is the only flavor available.

Figure 3. Proportion using flavored tobacco products among those high school students who were current users of a given tobacco product



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

Abbreviations: LCC = little cigars or cigarillos.

**Menthol* was the only available flavor for cigarettes.

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

Flavored Tobacco Use by Demographics

Table 8 presents the current use of any flavored tobacco product by participant demographics. Across gender, race/ethnicity, and grade, the vast majority of current users reported using a flavored tobacco product in the last 30 days.

Table 8. Proportion using flavored tobacco products among those high school students who were current tobacco users, by gender, race/ethnicity, and grade

	N	Current use % (95% CI)
Overall	643	93.1 (91.6-94.6)
Gender		
Male	224	92.6 (89.1-96.2)
Female	332	92.5 (89.9-95.0)
Identified in Another Way	46	93.6 (88.0-99.2)†
Declined to Answer	23	100.0
Race/Ethnicity		
White	99	91.6 (87.8-95.4)
African American/Black	7	100.0
Hispanic	252	90.9 (88.5-93.4)
Asian	169	96.7 (93.4-100.0)†
Other	36	94.4 (85.3-100.0)†
Multiple	62	93.9 (89.3-98.6)†
Grade		
Grade 10	289	94.4 (92.5-96.3)
Grade 12	354	92.3 (90.1-94.5)

Note: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

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

Use of Specific Vape Flavor Types

Students who used a flavored vape in the last 30 days were asked to indicate the flavor type they used most often. Possible flavor types included *fruit*, *candy or sweet*, *mint*, *liquor*, *tobacco*, and *other*. Due to the small sample sizes, *alcohol or liquor* and *other* flavors were combined. Only the specific flavors used by current vape users were presented due to the small sample sizes and resulting instability of estimates for other tobacco products.

As shown in Table 9, *fruit* (67.6%) was by far the most popular flavor used by current vapers. *Mint* (16.7%) and *candy or sweet* (10.4%) flavors were less popular than *fruit*. Few students reported using *tobacco* or *other* flavored vapes (2.1% and 3.1%, respectively).

Table 9. Proportion using flavored vape products among those high school students who were current vapers, by flavor type

	Vapes N=559 % (95% CI)
Fruit	67.6 (62.5-72.7)
Candy or sweet	10.4 (7.3-13.6)
Mint	16.7 (10.7-22.7)
Tobacco	2.1 (1.2-3.1)
Other*	3.1 (1.9-4.4)

Note: Students who (1) vaped just flavoring, (2) vaped nicotine, or (3) used a hookah pen with nicotine or just flavoring, were asked about their use of flavor for each product. If students used at least two of the above, their flavor type was considered in the following order: the flavor type they used when they (1) vaped just flavoring, (2) vaped nicotine, (3) used a hookah pen with nicotine or just flavoring.

**Alcohol or liquor* and *other* flavors were combined.

CHAPTER 3 – Perceptions of Vaping and Smoking

Highlights

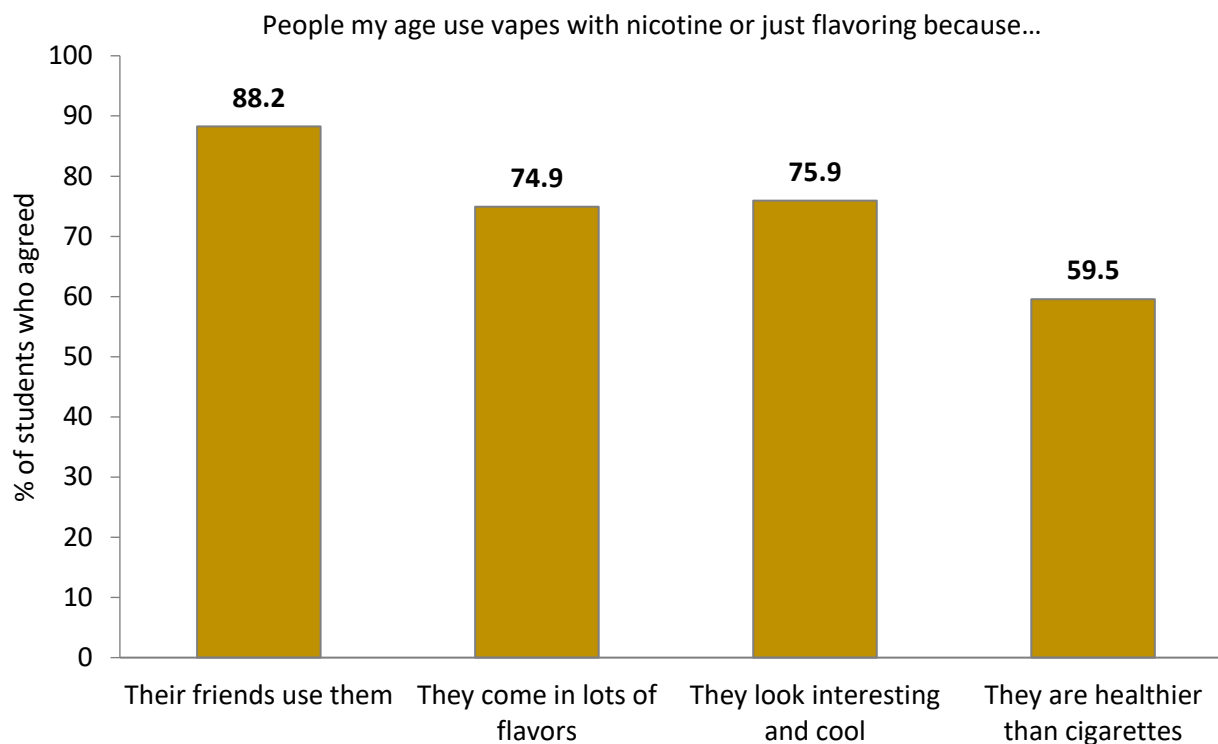
- The majority of students (88.2%) believed that the reason people their age used vapes with nicotine or just flavoring because their friends did.
- Almost all students believed adults important to them would feel negatively about the student vaping (97.2%) and smoking cigarettes (97.6%).
- The vast majority of students believed that their close friends and other students at school would view smoking cigarettes negatively (93.2% and 82.6%, respectively).
- About three-fourths of students (76.9%) believed that other students at school would view vaping negatively, while less than half (44.1%) believed other students at school would.
- About three-fourths of students believed that vaping companies were part of the tobacco industry (78.7%) and that tobacco companies targeted people their age by advertising flavored tobacco products in stores and on social media (74.6%).

Perceived social norms have an important influence on tobacco use behavior, particularly among youth. Perceptions of peer and adult attitudes towards tobacco use can influence a student's use. The following chapter presents data on the perceived reasons for vaping among students. It also presents data on how students believed adults, peers or classmates, and friends perceived vaping and smoking cigarettes. Finally, students' opinions of the tobacco industry are reported. It should be noted that the questions about vapes reported in this chapter specified the type of substance in the vape (e.g., nicotine or just flavoring).

Perceived Reasons for Vaping

Students were asked about their level of agreement with four reasons why people their age used vapes with nicotine or just flavoring. Figure 4 shows the percentage of students who *strongly agreed* or *somewhat agreed* with each reason. Close to nine out of ten students (88.2%) agreed that people their age used vapes because their friends did. Many students also agreed that people their age used vapes because they came in lots of flavors (74.9%) and looked interesting and cool (75.9%). Over half (59.5%) agreed that people their age used vapes because they were healthier than cigarettes.

Figure 4. Perceived reasons for vaping among high school students



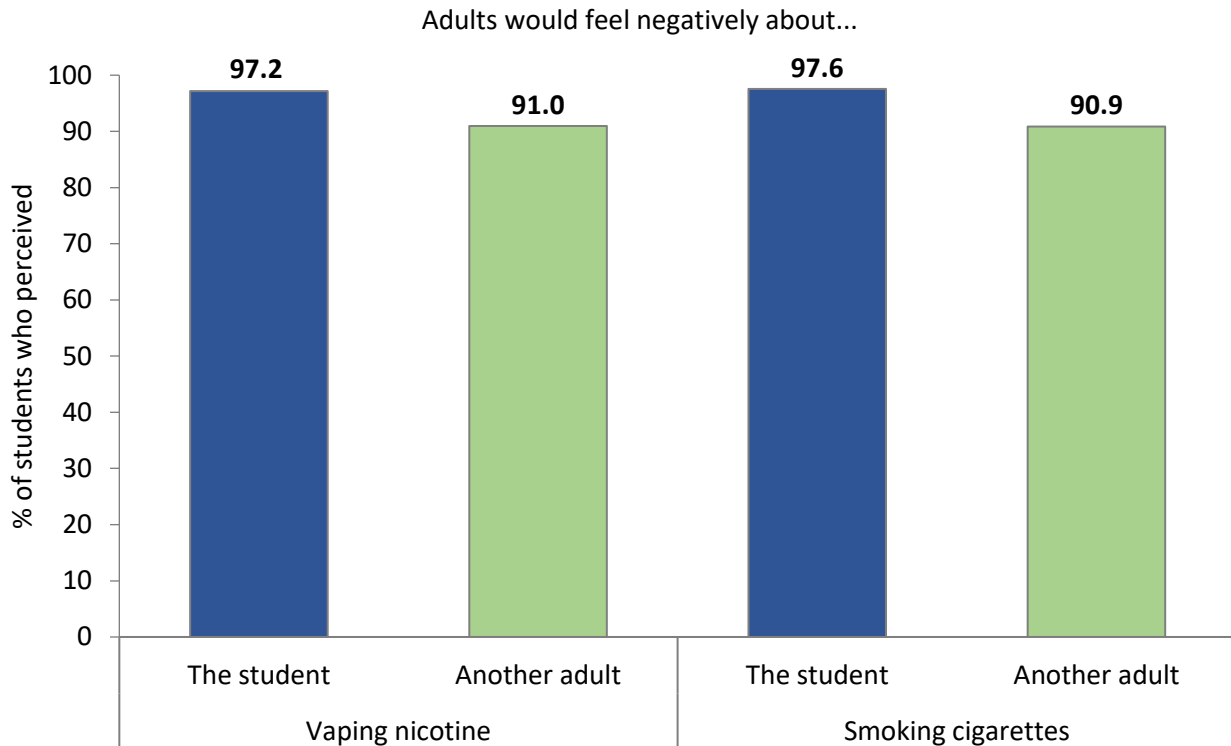
Note: Refer to Table D in Appendix C – Supplementary Tables to view estimates with confidence intervals.

Perceptions of Adults' Views on Vaping and Smoking

Students were asked how adults who were important to them (such as parents, teachers, coaches, or relatives) would feel about them vaping nicotine. They were also asked how the same adults would feel about another adult vaping nicotine. Response options included *very positive*, *positive*, *negative*, and *very negative*. The same questions were asked about smoking cigarettes.

Figure 5 presents the percentage of students who reported that adults important to them would feel negatively (*negative* and *very negative*) about their own or another adults vape or cigarette use. Almost all students thought adults important to them would feel negatively about the student vaping or smoking cigarettes (97.2% and 97.6%, respectively). The vast majority of students also thought these adults would feel negatively about another adult vaping and smoking cigarettes (91.0% and 90.9%, respectively).

Figure 5. Percentage of high school students who believed that adults would feel negatively about them or another adult if they vaped or smoked



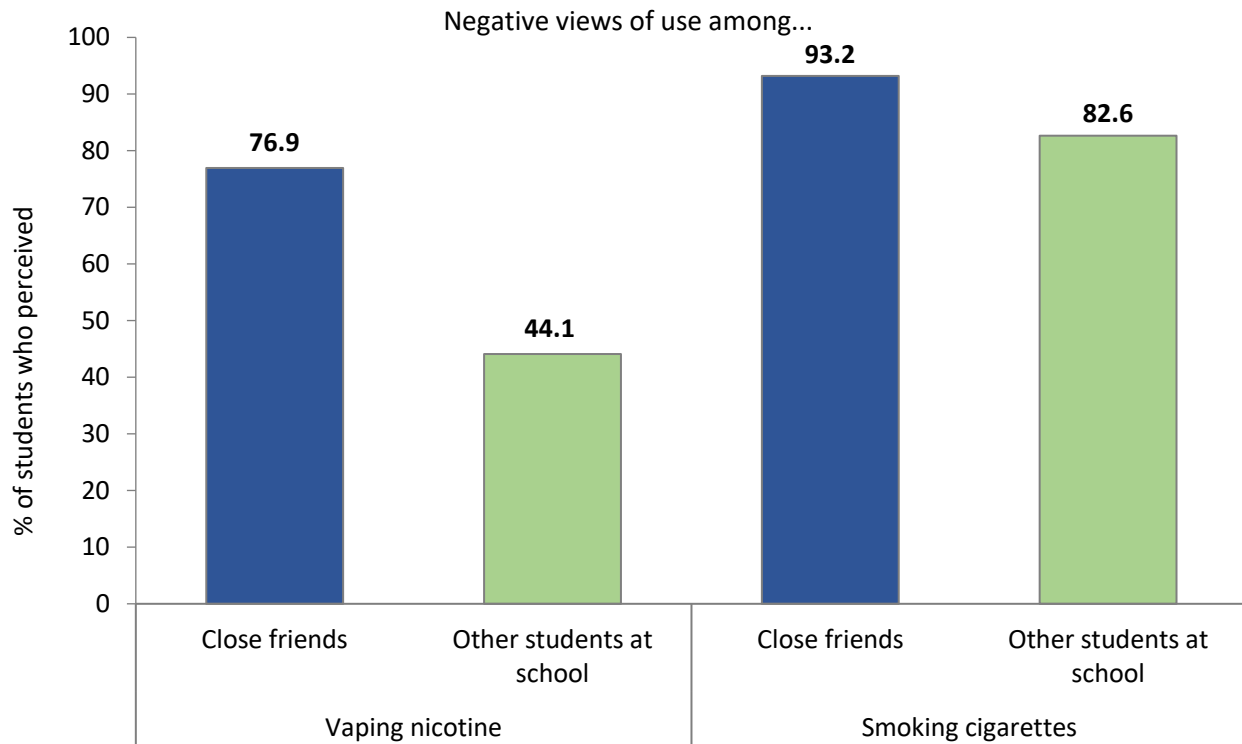
Note: Refer to Table E in Appendix C – Supplementary Tables to view estimates with confidence intervals.

Perceptions of Peers' Views on Vaping and Smoking

Students were asked how they would describe their close friends' views on using vapes with nicotine. They were also asked to describe the views of students at their school. Response options included: *very positive*, *positive*, *negative*, and *very negative*. The same questions were asked about smoking cigarettes.

Figure 6 presents the percentage of students who believed that their close friends or other students at their school would view vaping nicotine or smoking cigarettes negatively (*negative* and *very negative*). More than three-quarters of students (76.9%) believed that their close friends would view vaping negatively. However, less than half (44.1%) thought other students at their school viewed vaping negatively. Overall, a greater proportion of students thought that their close friends (93.2%) and other students at their school (82.6%) would view smoking cigarettes negatively relative to vaping.

Figure 6. Percentage of high school students who believe that their close friends or other students at their school would view vaping or smoking negatively



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

Opinions of the Tobacco Industry

Table 10 shows the percentage of students who *strongly agreed* or *somewhat agreed* with three statements about the tobacco industry. About three-quarters of students believed that vaping companies were part of the tobacco industry (78.7%) and that tobacco companies targeted people their age by advertising flavored tobacco products in stores and on social media (74.6%). The majority of students (55.2%) believed that tobacco companies targeted people their age by selling tobacco products near schools.

Table 10. Opinions of the tobacco industry by use status among high school students

	Agreed	
	N	% (95% CI)
Vaping companies are part of the tobacco industry	7604	78.7 (76.7-80.6)
Tobacco companies target people my age by advertising flavored cigarettes, LCC, or vapes in stores and on social media	7608	74.6 (73.6-75.6)
Tobacco companies target people my age by selling cigarettes, LCC, or vapes in stores near schools	7614	55.2 (52.4-58.1)

CHAPTER 4 – Secondhand Exposure and Other Environmental Influences

Highlights

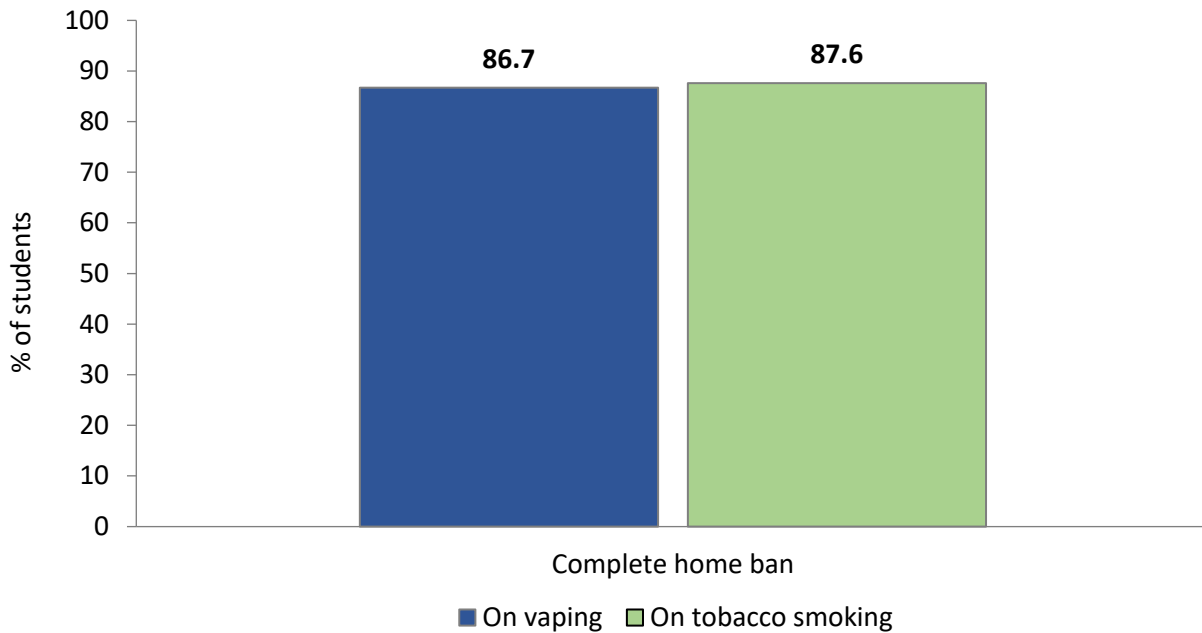
- Most high school students in Santa Clara County reported living in a home that had complete bans on vaping (86.7%) and tobacco smoking (87.6%).
- Close to one in three students (29.3%) were exposed to secondhand vapor in a room within the last 2 weeks. Students' secondhand exposure to tobacco smoke (7.4%) in a room was much lower. Exposure to secondhand vapor (16.2%) and tobacco smoke (5.3%) in a car in the last 2 weeks was also concerning.
- Students reported higher rates of smelling tobacco smoke (19.8%) drifting into their home than vapor (8.7%) in the last 2 weeks.
- Less than one in four students reported that their parent or guardian had talked to them about the risks of vape (24.1%) and cigarette use (19.8%) in the last 30 days.
- Most students had been exposed to vape and cigarette ads (71.2% and 53.0%, respectively), with a greater percentage of students reporting ads they perceived to discourage rather than promote the use of the products.

This chapter focuses on several key environmental influences of tobacco use, all of which have been shown to affect use among youth.^{7,8} It presents whether students had home bans on vaping and tobacco smoking and their exposure to secondhand vapor and tobacco smoke. It also presents the prevalence of exposure to advertisements (ads) promoting or discouraging vape and cigarette use in the last 30 days. It should be noted that the questions about vapes reported in this chapter asked about vapes generally and did not specify the substance in the vape (e.g., nicotine, marijuana, or just flavoring). As a result, responses could include exposure to vapes with marijuana.

Home Bans on Vaping and Tobacco Smoking

Home bans indicate whether the student's home environment explicitly discourages vaping and smoking cigarettes or other tobacco products. Using two separate questions, students were asked to indicate which statement best described the rules about *vaping* or *smoking cigarettes or other tobacco products* in their home (see List of Terms). Figure 7 shows that, the large majority of students had a complete home ban on vaping and on tobacco smoking (86.7% and 87.6%, respectively).

Figure 7. Prevalence of complete home bans on vaping and tobacco smoking among high school students



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

Table 11 provides data on the rates of complete home bans on vaping and tobacco smoking by race/ethnicity. Although reports of complete home bans on smoking and vaping were high across racial/ethnic groups, the rates of complete home bans on vaping were lower for students who were Hispanic (85.3%) and Other race/ethnicity (80.4%) relative to White students (89.4%). The rates of complete home bans on tobacco smoking were lower for students who were African American/Black (79.7%), Hispanic (86.9%), and Other race/ethnicity (76.1%) relative to White students (91.3%).

Table 11. Prevalence of complete home bans on vaping and tobacco smoking by race/ethnicity among high school students

	Vaping ban		Tobacco smoking ban	
	N	% (95% CI)	N	% (95% CI)
Overall	7627	86.7 (84.5-89.0)	7608	87.6 (85.5-89.7)
White	1023	89.4 (87.0-91.8)	1021	91.3 (89.6-93.0)
African American/Black	115	83.8 (77.3-90.4)	113	79.7 (71.9-87.5)
Hispanic	2459	85.3 (83.7-86.8)	2449	86.9 (85.2-88.5)
Asian	2950	87.9 (84.6-91.2)	2949	87.9 (85.2-90.5)
Other	281	80.4 (75.6-85.2)	280	76.1 (69.6-82.6)
Multiple	747	86.7 (83.0-90.5)	745	89.2 (86.1-92.3)

Note: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and non-standard entries.

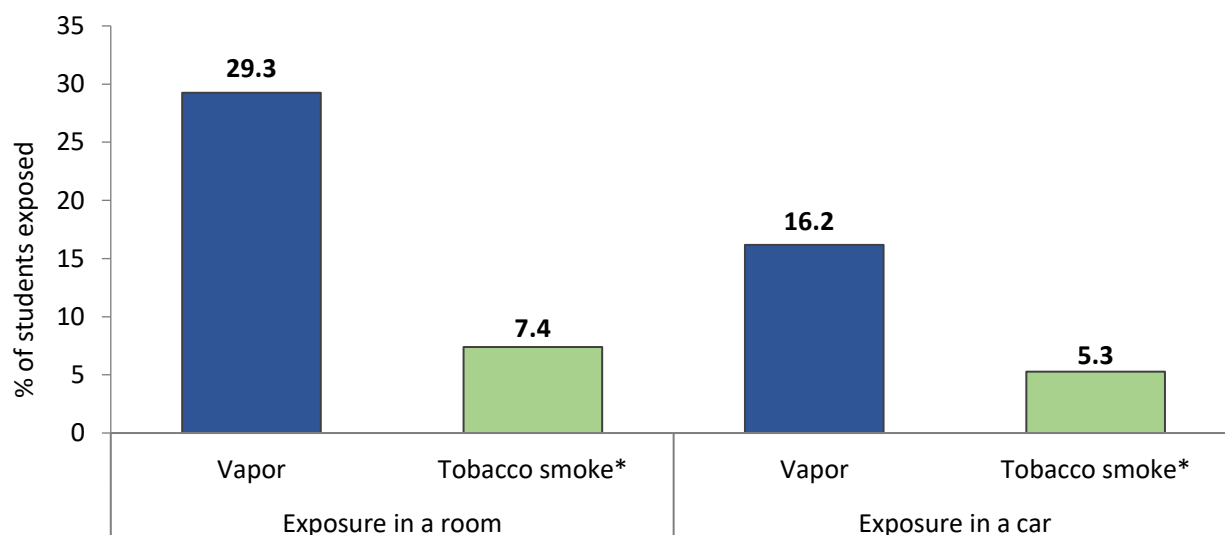
Exposure to Secondhand Vapor and Tobacco Smoke in the Last 2 Weeks

A primary avenue for achieving social norm change is through enactment of tobacco control policies, such as creating smoke-free environments. Creating smoke-free environments helps to change social norms, which reduces the chances of youth starting to smoke while encouraging smokers to quit or reduce their tobacco use.⁹ Secondhand exposure to tobacco products is a priority issue in the County of Santa Clara, 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.¹⁰ However, 36.6% of students had still been exposed to secondhand vapor or tobacco smoke (in a room or in a car) within the last 2 weeks (data not shown in figure).

The 2019–20 CSTS asked students about secondhand exposure to vapor in a room: “In the last 2 weeks, were you in a room when someone was using a vape?” Another question asked about secondhand exposure to tobacco smoke in a room: “In the last 2 weeks, 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. It should be noted that the timeframe referenced in the question was changed in 2019-20, from “in the last 30 days” to the “in last 2 weeks.” As a result, rates of secondhand exposure are not directly comparable to those of earlier CSTS surveys.

As shown in Figure 8, students reported being exposed to secondhand vapor and tobacco smoke in a room at higher rates compared to in a car. Secondhand exposure in a room within the last 2 weeks was higher for vapor compared with smoke (29.3% and 7.4%, respectively). Secondhand exposure in a car in the last 2 weeks was also higher for vapor than smoke (16.2% and 5.3%, respectively).

Figure 8. Prevalence of last 2-week exposure to vapor and tobacco smoke* in a room and car among high school students



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

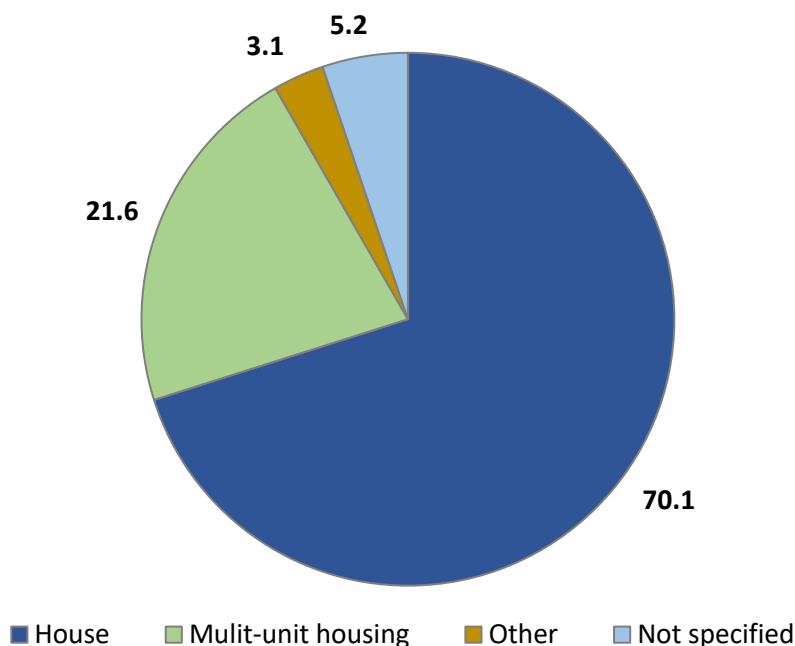
*Two products: Cigarettes and little cigars or cigarillos (LCC)

Exposure to Secondhand Vapor and Tobacco Smoke by Home Type

Students are predisposed to environmental influences that may affect tobacco use behavior and vulnerability to secondhand exposure to vapor and tobacco smoke. The County of Santa Clara was interested in exploring the relationship between secondhand exposure and home type. Therefore, students were asked the type of home in which they currently lived. There were four 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; and I don't know.* For reporting purposes, the four response options were abbreviated as follows “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*), and “Not specified” (*I don't know*).

Figure 9 presents the percentage of students who reported each home type. The majority of students (70.1%) lived in a house, followed by multi-unit housing (21.6%). Small percentages of students did not specify their housing type (5.2%) or lived in some other type of housing (3.1%).

Figure 9. Percentage of housing types among high school students



Refer to Table I in Appendix C – Supplementary Tables to view estimates with confidence intervals

Table 12 presents the prevalence of current use of a given tobacco product based on home type. Across home types, vapes were the most prevalent product used by students, while other tobacco product use was low. Compared with students who lived in houses or multi-unit housing, tobacco product use was generally higher for students who lived in other housing and did not specify their housing. In particular, the use of vapes was twice as high among students who lived

in other housing (14.7%) compared with those who lived in houses (7.2%) or multi-unit housing (7.3%).

Table 12. Prevalence of current tobacco product use by home type among high school students

	House N=5226 % (95% CI)	Multi-unit housing N=1687 % (95% CI)	Other N=242 % (95% CI)	Not specified N=426 % (95% CI)
Any of the below	7.8 (6.1-9.4)	8.5 (6.2-10.7)	17.4 (11.4-23.5)	11.7 (9.1-14.3)
Vapes	7.2 (5.7-8.7)	7.3 (5.0-9.7)	14.7 (10.0-19.3)	9.7 (7.0-12.4)
Cigarettes	0.7 (0.3-1.1)	1.1 (0.5-1.6)	3.4 (0.4-6.4)†	3.1 (0.9-5.4)†
LCC	0.9 (0.4-1.4)	2.1 (1.2-3.1)	4.7 (1.0-8.4)†	2.5 (0.7-4.2)†
Big cigars	0.2 (0.1-0.3)†	0.4 (0.0-0.8)†	1.8 (0.0-3.9)†	2.5 (0.6-4.3)†
Hookah	0.2 (0.0-0.4)†	0.5 (0.1-0.9)†	2.7 (0.8-4.6)†	3.3 (1.6-4.9)
Smokeless	0.2 (0.0-0.3)†	0.5 (0.2-0.7)	2.6 (0.2-5.1)†	1.6 (0.0-3.3)†

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

Secondhand exposure to vapor in a room in the last 2 weeks was higher than that of tobacco smoke for all home types (Table 13). Secondhand exposure to vapor was largely similar by home type, except for the unspecified home type, in which vapor exposure was the lowest (19.9%). Conversely, students who did not specify their home type reported the highest secondhand exposure to tobacco smoke (12.3%) relative to the other housing types.

Table 13. Prevalence of last 2-week exposure to vapor and tobacco smoke* in a room by home type among high school students

	Vapor		Tobacco smoke*	
	N	% (95% CI)	N	% (95% CI)
Overall	7638	29.3 (24.8-33.7)	7649	7.4 (6.6-8.2)
House	5207	30.8 (25.5-36.2)	5213	6.9 (5.9-7.9)
Multi-unit housing	1682	26.8 (21.5-32.0)	1682	7.4 (6.0-8.9)
Other	242	28.0 (19.3-36.7)	242	8.9 (5.8-12.0)
Not specified	418	19.9 (15.6-24.1)	422	12.3 (10.1-14.6)

*Two products: Cigarettes and little cigars or cigarillos (LCC)

Students in Santa Clara County were asked “In the last 2 weeks, did you smell vapor from a vape drifting into your home from a neighbor or from outside?” They were also asked the same question about *tobacco smoke from a cigarette, little cigar, or cigarillo*. It should be noted that this question was changed in 2019-20, and previously asked how many days in the past 7 days did students smell tobacco smoke from someone else’s cigarette, cigar, or pipe drifting into their home from nearby apartments or from outside. As a result, the data for tobacco smoke drifting into students’ homes is not directly comparable to that of the 2017-18 CSTS survey.

Overall, significantly more students in Santa Clara County reported smelling tobacco smoke (19.8%) drifting into their home than vapor (8.7%) in the last 2 weeks (Table 14). More students who lived in other housing reported smelling tobacco smoke and vapor drifting into their home (32.4% and 18.3%, respectively) relative to those who lived in a house (16.4% and 7.0%, respectively). Students who lived in multi-unit housing (29.2%) were also more likely to smell tobacco smoke drifting into their home than those who lived in a house (16.4%).

Table 14. Prevalence of reported vapor and tobacco smoke* drifting into home in the last 2 weeks by home type among high school students

	Vapor		Tobacco smoke*	
	N	% (95% CI)	N	% (95% CI)
Overall	7541	8.7 (6.5-10.9)	7542	19.8 (15.5-24.2)
House	5200	7.0 (4.9-9.2)	5203	16.4 (12.0-20.7)
Multi-unit housing	1675	11.0 (8.4-13.7)	1674	29.2 (25.5-33.0)
Other	239	18.3 (13.7-22.9)	237	32.4 (27.4-37.4)
Not specified	414	15.9 (12.6-19.2)	415	20.6 (17.3-24.0)

*Two products: Cigarettes and little cigars or cigarillos (LCC)

Exposure to Vape and Cigarette Prevention Messages at Home in the Last 30 Days

Table 15 presents students who reported that their parent or guardian had talked to them about the risks of vape and cigarette use in the last 30 days, by use status. Overall, less than one in four students reported that their parent or guardian talked to them about the risks of vape (24.1%) and cigarette use (19.8%). Current users reported that their parent or guardian talked to them about the risks of vape and cigarette use at the highest rates.

Table 15. Percentage of high school students whose parent/guardian talked to them about the risks of vape and cigarette use in the last 30 days, by use status

	Vapes		Cigarettes	
	N	% (95% CI)	N	% (95% CI)
Overall	7491	24.1 (22.2-26.0)	7499	19.8 (18.2-21.5)
Never users of the product	5824	23.3 (21.1-25.6)	7184	19.5 (17.7-21.2)
Former users of the product	1118	24.9 (22.5-27.2)	250	26.5 (20.1-32.9)
Current users of the product	549	30.7 (25.1-36.3)	64	28.8 (20.4-37.1)

Exposure to Vape and Cigarette Ads in the Last 30 Days

Participants were asked whether they had seen ads that either promoted or discouraged the use of vapes or cigarettes within the last 30 days. Table 16 shows that students' exposure to vape ads (71.2%) was higher than their exposure to cigarette ads (53.0%).

Table 16. Exposure to vape and cigarette ads in the last 30 days among high school students

	Overall exposure to tobacco-related ads N=7639 % (95% CI)
Vapes	71.2 (68.1-74.3)
Cigarettes	53.0 (51.4-54.6)

Those who reported having seen ads for either product were asked whether the ads they saw *mostly promoted, mostly discouraged, or neither promoted nor discouraged* their use. There was also a response option for *I don't know*. Table 17 shows that more students reported seeing ads that discouraged the use of vapes and cigarettes (47.9% and 36.2%, respectively) than promoted their use (12.9% and 8.0%, respectively).

Proportionally, about one in six vape-related ads were perceived to promote vape use (12.9% / 71.2% = 18.1%), while over three in five were considered to be discouraging its use (47.9% / 71.2% = 67.3%). The rest of the ads were not clearly perceived as being either for or against the product. Similarly, about one in six cigarette-related ads were considered to promote smoking cigarettes (8.0% / 53.0% = 15.1%), while over three in five were considered to be discouraging their use (36.2% / 53.0% = 68.3%)

Table 17. Exposure to perceived types of vape and cigarette ads in the last 30 days among high school students

	Exposure to...			
	Pro-tobacco ads	Anti-tobacco ads	Neutral ads	I don't know
N=7627	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Vapes	12.9 (11.9-13.9)	47.9 (44.8-51.0)	3.3 (3.0-3.6)	7.1 (6.6-7.6)
Cigarettes	8.0 (7.5-8.5)	36.2 (34.6-37.8)	2.9 (2.5-3.3)	5.8 (5.4-6.3)

CHAPTER 5 – Access to Vapes and Cigarettes

Highlights

- Among current vapers, about half (47.1%) reported not paying for their vapes and half (52.9%) reported paying for them.
- Out of those who did not pay for their vapes, about half (54.7%) reported being given them. Out of those who did pay for their vapes, 40.9% reported buying them from someone and 22.4% reported buying them from the store themselves.
- Among current cigarette smokers, 56.5% did not pay for their cigarettes and 43.5% did.
- Out of those who did not pay for their cigarettes, 41.7% reported being given them. Out of those who did pay for their cigarettes, 22.5% reported buying them from someone and 54.9% reported buying them from the store themselves.
- Among those who reported buying from a store, *vape shops* (35.6%) and *tobacco or smoke shops* (35.4%) were the most popular store types for purchasing vapes.
- Nearly one-third (31.3%) of students who lived within walking distance of stores that sold either vapes or cigarettes had visited one in the last 30 days.
- Over one-quarter (26.3%) of students in Santa Clara County reported being offered vapes in the last 30 days, with one in six (17.2%) who had never used vapes having been offered one. Fewer students reported offers of cigarettes (3.6%).

Limiting access to tobacco products among youth reduces opportunities to use such products, and age restrictions are intended to make it difficult for students to access tobacco products. The legal age to purchase tobacco products in California is 21 years old. Because of this, it is important to monitor how underage students obtain tobacco products, particularly through social sources. This chapter presents data on how students accessed vapes and cigarettes and on student offers of these products. Students who were current users of vapes or cigarettes were asked whether they paid for their own vapes (or pods 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).

It should be noted that the questions about the acquisition and sources of vapes reported in this chapter asked about vapes with nicotine or just flavoring specifically; whereas the question about offers asked about vapes generally. As a result, responses to the question on offers could include vapes with marijuana.

Acquisition of Vapes and Cigarettes

Of current vapers, 47.1% reported not paying for their own vapes (or pods or e-liquid) and 52.9% reported paying for them (data not shown in table). Table 18 shows how those 47.1% of students

usually got vapes (or pods or e-liquid) from social sources. More than half (54.7%) of them reported being given vapes and one-quarter (25.3%) reported asking someone for vapes.

Table 18. Acquisition of vapes (or pods or e-liquid) among those high school students who were current vapers, by social source

	Current vapers N=267
Did not pay for own vapes (or pods or e-liquid)	% (95% CI)
Someone gives them to me	54.7 (49.0-60.3)
I ask someone for them	25.3 (18.6-32.1)
I take them from someone	8.6 (5.7-11.4)
I get them some other way	11.5 (6.6-16.4)

Table 19 presents the methods of purchase among those 52.9% of students who did pay for their vapes (or pods or e-liquid). Close to two-fifths (40.9%) of them reported buying vapes from someone else and 22.4% reported buying vapes from the store themselves. Another 21.6% reported asking someone to buy vapes for them. Few students (5.1%) reported buying vapes from the Internet (including apps).

Table 19. Acquisition of vapes (or pods e-liquid) among those high school students who were current vapers, by purchase source

	Current vapers N=302
Paid for own vapes (or e-liquid)	% (95% CI)
I buy them from the store myself	22.4 (18.8-26.0)
I buy them from someone	40.9 (33.6-48.3)
I ask someone to buy them for me	21.6 (14.4-28.8)
I buy them from the Internet (including apps)	5.1 (3.3-6.9)
I buy them some other way	10.0 (6.1-13.8)

Of current cigarette smokers, 56.5% reported not paying for their own cigarettes and 43.5% did (data not shown in table). Table 20 shows how those 56.5% of students usually got their cigarettes from social sources. About two-fifths (41.7%) of these students reported being given cigarettes and 22.8% reporting asking someone for cigarettes. A greater proportion of students reported acquiring cigarettes by taking them (24.7%) relative to vapes (8.6%).

Table 20. Acquisition of cigarettes among those high school students who were current cigarette smokers, by social source

	Current cigarette smokers N=37 % (95% CI)
Did not pay for own cigarettes	
Someone gives them to me	41.7 (27.9-55.5)
I ask someone for them	22.8 (11.9-33.7)
I take them from someone	24.7 (15.6-33.8)
I get them some other way	10.8 (3.0-18.7)†

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

Table 21 presents the methods of purchase among those 43.5% of students who paid for their cigarettes. Over half (54.9%) of them reported buying cigarettes from the store themselves and 22.5% reported buying cigarettes from someone else. Few students (4.2%) reported buying cigarettes from the Internet (including apps).

Table 21. Acquisition of cigarettes among those high school students who are current cigarette smokers, by purchase source

	Current cigarette smokers N=31 % (95% CI)
Paid for own cigarettes	
I buy them from the store myself	54.9 (35.8-74.1)
I buy them from someone	22.5 (13.0-31.9)
I ask someone to buy them for me	13.4 (0.0-30.1)†
I buy them on the Internet (including apps)	4.2 (0.0-10.4)†
I buy them some other way	5.0 (0.0-11.3)†

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

Sources of Vapes Among High School Students Purchasing from a Store

Students who reported buying vapes from the store were asked the specific store type where they bought the tobacco product. As shown in Table 22, among current vapers, *vape shops* (35.6%) and *tobacco or smoke shops* (35.4%) were the most popular store types for purchasing vapes.

Table 22. Sources of vapes among those high school students who bought vapes from a store, by store type

	Bought vapes from a store N=66 % (95% CI)
Gas station or convenience store	13.3 (7.0-19.6)
Grocery store	3.4 (0.0-7.0)†
Drugstore or pharmacy	0.0
Liquor store	4.8 (0.0-10.2)†
Tobacco or smoke shop	35.4 (23.2-47.7)
Vape shop	35.6 (26.9-44.3)
A mall or shopping center kiosk/stand	0.7 (0.0-1.9)†
Other	6.7 (1.5-11.9)†

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

Presence of Tobacco Retailers Near Home

Students in Santa Clara were asked whether they had stores that sold vapes and cigarettes within walking distance of their home. Table 23 shows that close to two-fifths (38.1%) of students had stores that sold vapes located within walking distance of their house, while half (50.3%) had stores that sold cigarettes in the same proximity.

Table 23. Percentage of high school students who had stores that sold vapes and cigarettes within walking distance of their house

Stores that sold...	N	Stores were within walking distance of their house % (95% CI)
vapes	7536	38.1 (32.7-43.5)
cigarettes	7542	50.3 (43.5-57.1)

Students who reported living within walking distance of a store that sold vapes or cigarettes were asked whether they had visited a store that sold either product in the last 30 days. Table 24 shows that close to one-third (31.3%) of Santa Clara students who lived within walking distance of a vape or cigarette store had visited one in the last 30 days.

Table 24. Proportion of students who visited a store that sold vapes or cigarettes in the last 30 days among those who had stores that sold vapes or cigarettes within walking distance of their house

	Had stores that sold vapes or cigarettes within walking distance of their house N=3972 % (95% CI)
Been in a store that sold vapes or cigarettes in the last 30 days	31.3 (27.2-35.3)

Offers of Vapes and Cigarettes in the Last 30 Days

The 2019–20 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 *vapes* and *cigarettes*. Over one-quarter of students (26.3%) in Santa Clara County were offered a vape product in the last 30 days (Table 25). In contrast, only 3.6% were offered cigarettes. The difference reflects the difference in the prevalence of vape and cigarette use in the student population. Significantly more current vapers (79.0%) reported vape offers relative to never (17.2%) and former vapers (46.2%). Similarly, more current smokers (62.1%) reported offers of cigarettes relative to never (2.4%) and former smokers (17.6%).

Table 25. Prevalence of offers of vapes and cigarettes in the last 30 days among high school students, by use status

	Vapes		Cigarettes	
	N	% (95% CI)	N	% (95% CI)
Overall	7655	26.3 (23.3-29.4)	7654	3.6 (3.1-4.1)
Never users of the product	5943	17.2 (14.9-19.5)	7329	2.4 (2.1-2.8)
Former users of the product	1144	46.2 (43.1-49.3)	256	17.6 (14.4-20.8)
Current users of the product	568	79.0 (74.8-83.1)	68	62.1 (50.7-73.5)

CHAPTER 6 – Marijuana and Tobacco Co-Use

Highlights

- More than one-quarter (27.4%) of high school students in Santa Clara County reported having tried marijuana, while 13.4% reported using it in the last 30 days.
- The rate of currently using marijuana (13.4%) was higher than that of all tobacco products (8.6%).
- Nearly half of current marijuana users (47.0%) co-used marijuana with a tobacco product.
- Over one-quarter (26.3%) of students reported smelling marijuana smoke drifting into their home in the last 2 weeks.

The legalization of both medicinal and recreational marijuana in California can present increased opportunities for youth to use marijuana, even though they have not reached the legal age to use it. Marijuana can be used alone and in conjunction with tobacco products. This chapter presents the use of marijuana and co-use of marijuana and any tobacco, as well as the prevalence of marijuana smoke drift in the last 2 weeks among high school students in Santa Clara County.

Marijuana Use

Table 26 presents the prevalence of ever and current marijuana use among high school students by demographic characteristics. In Santa Clara County, the rate of currently using marijuana (13.4%) was higher than that of any tobacco product (8.6%). There was no difference when comparing current use rates of marijuana between females and males. Notably, students who identified their gender in another way or declined to report their gender had significantly higher current marijuana use rates (28.3% and 20.5%, respectively). Asian students had the lowest rate of marijuana use (6.3%) among all racial/ethnic groups. The prevalence of marijuana use was higher among 12th grade relative to 10th grade students (17.6% and 9.4%, respectively).

Table 26. Prevalence of marijuana use by gender, race/ethnicity, and grade among high school students

	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	7712	27.4 (22.8-31.9)	13.4 (11.4-15.4)
Gender			
Male	3554	23.9 (19.3-28.6)	11.7 (8.9-14.5)
Female	3692	29.6 (24.9-34.3)	13.6 (12.2-15.1)
Identified in Another Way	180	39.9 (33.4-46.4)	28.3 (23.7-33.0)
Declined to Answer	209	31.6 (25.9-37.2)	20.5 (16.3-24.7)
Race/Ethnicity			
White	1028	30.2 (24.0-36.3)	17.3 (14.1-20.5)
African American/Black	116	23.8 (15.3-32.2)	10.8 (4.4-17.2)†
Hispanic	2483	38.1 (32.3-43.8)	17.3 (14.4-20.2)
Asian	2956	14.1 (11.9-16.2)	6.3 (5.2-7.3)
Other	283	32.3 (27.3-37.2)	19.7 (16.0-23.3)
Multiple	748	27.2 (24.1-30.2)	12.8 (10.7-14.9)
Grade			
Grade 10	4438	20.5 (16.3-24.6)	9.4 (7.3-11.5)
Grade 12	3274	34.6 (29.5-39.6)	17.6 (15.6-19.5)

Notes: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity category Other includes Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and non-standard entries.

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

Marijuana and Tobacco Co-Use

Table 27 further categorizes current marijuana use based on whether students used marijuana only or used marijuana and any tobacco product (i.e., co-use). Overall, 7.0% of students currently used marijuana only and 6.3% co-used marijuana and tobacco. In other words, 47.0% of current marijuana users also used a tobacco product ($6.3\% / 13.4\% = 47.0\%$).

The prevalence of marijuana only and tobacco co-use was largely similar for males and females. Students who identified their gender in another way had a higher co-use rate (20.5%) than that of marijuana only (7.8%). By race/ethnicity, all groups, except Asian and Other, tended to use marijuana only at higher rates than co-use marijuana and tobacco. Students in 12th grade tended to have a lower co-use than marijuana only use rate, while those in 10th had similar rates. Though differences by race/ethnicity and grade did not necessarily reach statistical significance.

Table 27. Prevalence of current marijuana only use and co-use of marijuana/any tobacco product by gender, race/ethnicity, and grade among high school students

	Marijuana only use		Co-use of marijuana and any tobacco product
	N	% (95% CI)	% (95% CI)
Overall	7712	7.0 (5.7-8.4)	6.3 (5.2-7.5)
Gender			
Male	3554	6.8 (4.9-8.8)	4.8 (3.6-6.0)
Female	3692	7.0 (6.0-8.0)	6.6 (5.6-7.6)
Identified in Another Way	180	7.8 (3.4-12.3)	20.5 (15.8-25.1)
Declined to Answer	209	10.6 (5.3-15.8)	9.9 (5.8-14.0)
Race/Ethnicity			
White	1028	9.9 (8.6-11.2)	7.4 (5.2-9.5)
African American/Black	116	6.3 (2.4-10.1)†	4.5 (1.5-7.5)†
Hispanic	2483	9.5 (7.3-11.7)	7.8 (6.5-9.1)
Asian	2956	2.7 (2.0-3.4)	3.6 (2.4-4.8)
Other	283	8.8 (5.5-12.2)	10.8 (9.0-12.6)
Multiple	748	6.9 (5.5-8.3)	5.9 (3.5-8.3)
Grade			
Grade 10	4438	4.5 (3.1-5.8)	4.9 (3.7-6.0)
Grade 12	3274	9.7 (8.2-11.2)	7.9 (6.8-9.0)

Note: With the exception of Hispanic, all ethnicities are classified as Non-Hispanic. Race/Ethnicity category Other includes Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and non-standard entries.

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

Environmental Influences of Marijuana Use

Students in Santa Clara County were asked “In the last 2 weeks, did you smell marijuana smoke drifting into your home from a neighbor or from outside?” Overall, 26.3% of students reported smelling marijuana smoke drifting into their home in the last 2 weeks (Table 28). More students who lived in multi-unit (36.4%) and other (40.0%) housing reported smelling drifting marijuana smoke relative to those who lived in a house (22.9%).

Table 28. Prevalence of marijuana smoke drifting into home in the last 2 weeks by home type among high school students

	Marijuana smoke	
	N	% (95% CI)
Overall	7538	26.3 (19.9-32.7)
House	5201	22.9 (17.0-28.8)
Multi-unit housing	1672	36.4 (28.4-44.3)
Other	238	40.0 (36.2-43.7)
Not specified	414	23.1 (19.3-26.9)

CONCLUSION

The most encouraging result from the 2019-20 CSTS is that current cigarette smoking (i.e., use in last 30 days) among Santa Clara high school students has reached a historical low of 1.0%. This is lower than any report of adolescent current smoking prevalence in recent years.¹¹ The historically low rate of current cigarette smoking suggests that 30 years of campaigning against smoking since Proposition 99 have succeeded in changing the social norms against smoking. This is further evidenced by the overwhelming percentage of high school students (93.2%) who believed that their close friends viewed smoking cigarettes negatively. Thus, there is potential for this to be the first generation of Santa Clara youth who will be essentially smoke-free when they reach adulthood.

Much work remains, however, as one-quarter (25.3%) of high school students in Santa Clara have experimented with at least one type of tobacco. Most of those experimenters tried vaping (23.0%), with 7.7% of high school students currently using vapes. Over one-quarter (26.3%) of students were offered a vape in the last 30 days, with one in six (17.2%) of those who had never used vapes having been offered one. 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 different from that of cigarette smoking, with vaping being more popular and acceptable. Over half (55.9%) of the high school students in 2019–20 believed that their fellow students did not view vaping negatively.

There are interesting developments in student perceptions that suggest adolescents have grouped vaping with tobacco use when it comes to industry promotion. About three-quarters of high school students believed that vaping companies were part of the tobacco industry and that tobacco companies targeted their age group by advertising flavored tobacco products in stores and on social media. The perception of a vaping company as part of the tobacco industry may mobilize youth against the use of their products because of the negativity associated with the latter, as an industry that has manipulated the facts to addict young people.^{12,13}

The intersection of vaping nicotine and vaping marijuana is a concern. Marijuana use in general was much higher than vaping nicotine or just flavoring among high school students in Santa Clara. New products for marijuana, including those using new vaping devices, can be appealing to youth. The public health community must be particularly vigilant in monitoring the impact of new vaping devices on the use of both nicotine and marijuana among adolescents.

In summary, findings from the 2019–20 CSTS reveal significant achievements, while also raising new questions about the next phase of the public health campaign. The very low smoking prevalence among high school students suggests that an end-game for the use of combustible tobacco is within sight. Vaping remains a 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 2019-2020* on the California Department of Public Health, California Tobacco Control Branch's website: <https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CTCB/Pages/FactSheetsAndReports.aspx>
- Learn about Tobacco-Use Prevention Education (TUPE) resources, news, and partnerships near you: <https://tupeca.org/>
- View anti-tobacco commercials at: www.tobaccofreeca.com
- Connect students to the California Smokers' Helpline (1-844-8-NOVAPE, 1-800-NO-BUTTS) for free, evidence-based telephone counseling and online support to help quit vaping or smoking. Help is available for tobacco users and the people who care about them. Visit <http://www.nobutts.org/youthvaping> for more information.
- Learn about *Youth Vaping Alternative Program Education (YVAPE)*, an alternative to suspension program with telephone counseling and educational materials for California middle and high school students facing disciplinary action for vaping at school. Visit <https://yvape.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 (2.8%) reported using a tobacco product in the last 30 days.
- Vapes were the most prevalent product used (2.3%). The use of all other tobacco products was very low (less than 1.5%).
- Eighth grade students reported higher rates of secondhand exposure to vapor in a room in the last 2 weeks compared to tobacco smoke (11.3% and 7.4%, respectively).
- One-fifth (20.5%) of 8th grade students reported smelling tobacco smoke drifting into their home in the last two weeks. Fewer students reported vapor drifting into their home (8.5%).

The following section summarizes key tobacco use data for 8th grade students in Santa Clara County. It should be noted that the middle schools in this county were sampled as part of a statewide survey design without stratification by county. Therefore, the data for 8th grade students may not be representative of the 8th graders in the county and must be interpreted cautiously.

Tobacco Use Among 8th Grade Students

Table 29 presents the prevalence of ever and current use of tobacco products among 8th grade students. The current tobacco use rate among 8th graders was significantly lower than that of high school students; 2.8% of 8th grade students in Santa Clara County reported currently using a tobacco product (compared to 8.6% of high school students). Similar to high school students, vapes were the most commonly used product (2.3%) among 8th graders. The use of all other tobacco products was very low.

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

	Current use N=561 % (95% CI)
Any of the below	2.8 (0.6-5.0)†
Vapes	2.3 (0.8-3.8)†
Cigarettes	0.5 (0.2-0.9)†
LCC	1.1 (0.9-1.2)
Big cigars	0.4 (0.0-0.9)†
Hookah	0.9 (0.5-1.3)
Smokeless	0.5 (0.0-1.4)†

Abbreviations: LCC = little cigars or cigarillos.

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

Secondhand Exposure to Vapor and Tobacco Smoke Among 8th Grade Students

Table 30 reports 8th grade students' exposure to secondhand vapor or tobacco smoke in a room and in a car in the last 2 weeks (see List of Terms). Overall, a larger proportion of 8th grade students reported being exposed to secondhand vapor than tobacco smoke in a room in the last 2 weeks (11.3% and 7.4%, respectively). Exposure levels were similar for secondhand vapor and tobacco smoke in a car (6.1% and 6.1%, respectively).

Table 30. Prevalence of last 2-week exposure to vapor and tobacco smoke* in a room and car among 8th grade students

	Vapor		Tobacco smoke*	
	N	% (95% CI)	N	% (95% CI)
Exposure in a room	557	11.3 (11.2-11.5)	557	7.4 (5.1-9.7)
Exposure in a car	556	6.1 (2.2-9.9)†	558	6.1 (3.8-8.4)

*Two products: Cigarettes and little cigars or cigarillos (LCC).

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

Table 31 shows 8th grade students' exposure to vapor and tobacco smoke drifting into their home based on their home type. Overall, 20.5% of 8th grade students in Santa Clara County reported smelling tobacco smoke drifting into their home in the last 2 weeks, with fewer students (8.5%) reporting vapor drifting into their home. Students who lived in multi-unit housing had the highest rate of tobacco smoke drifting into their home (27.4%). Those who did not specify their housing had the highest rate of vapor drifting into their home (17.1%).

Table 31. Prevalence of reported vapor and tobacco smoke* drifting into home in the last 2 weeks by home type among 8th grade students

	Vapor		Tobacco smoke*	
	N	% (95% CI)	N	% (95% CI)
Overall	541	8.5 (6.1-10.8)	542	20.5 (17.1-23.9)
House	372	8.0 (5.3-10.8)	372	18.4 (14.5-22.3)
Multi-unit housing	101	7.0 (2.0-12.0)†	102	27.4 (18.7-36.1)
Other	20	5.2 (0.0-15.1)†	20	20.1 (2.5-37.8)†
Not specified	47	17.1 (6.3-27.9)†	47	23.3 (11.2-35.5)

*Two products: Cigarettes and little cigars or cigarillos (LCC)

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

APPENDIX B – Survey Methodology

Survey Administration

The California Student Tobacco Survey (CSTS) is funded by the California Department of Public Health (CDPH) and has been conducted biennially since 2001–02. The 2015–16 CSTS was the first to be administered by the University of California San Diego (UC San Diego). For the 2019–20 CSTS, Local Lead Agencies (LLA) of the California Tobacco Control Program (CTCP) were given the opportunity to subcontract with UC San Diego to analyze survey data within the LLA’s health jurisdiction.

The main goal of the survey is to obtain statewide prevalence estimates for various tobacco products used by middle and high school students in California. The survey samples students from 8th, 10th, and 12th grades, similar to the well-known Monitoring the Future Survey. However, the CSTS focuses mainly on high school students, with 8th grade students sampled in smaller numbers. This appendix provides a brief overview of survey methodology for the 2019–20 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 2019–20* by S-H. Zhu, et al.¹⁴ Additional details of the statewide report can be found in the *Results of the Statewide 2019–20 California Student Tobacco Survey Report* by S-H. Zhu, et al.¹⁵

Survey Content

The survey was designed to assess the use of, knowledge of, and attitudes toward cigarettes and emerging tobacco products (e.g., vapes, hookah, little cigars or cigarillos [LCC]). It also included questions about the use of and attitudes toward marijuana and alcohol. The survey contained 160 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); and awareness of advertising; and susceptibility to future tobacco use. The County of Santa Clara augmented the survey with additional county-specific questions.

Similar to previous years, the 2019-20 CSTS included images and product definitions with examples of common brands of tobacco products. The 2019-20 survey also referred to “e-cigarettes” as “vapes” to be consistent with changes in devices and the language used by youth to refer to these devices. The questionnaire included separate questions on vaping nicotine, marijuana, and just flavoring to determine prevalence estimates; although, some questions asked about vapes more generally. Questions about hookah pens were also asked separately to ensure that students who reported using a hookah pen, but not a vape were captured.

Another major change in the 2019-20 survey was the removal of the *I prefer not to answer* response option. This response option was removed for all questions except for those that asked about students’ gender identity or sexual orientation.

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. UC San Diego provided proctors for schools that required additional support. Teachers and proctors were provided with directions for administering the survey. UC San Diego staff were available to answer questions from teachers and proctors.

The 2019–20 CSTS was administered online during the school day. The online survey included programmed skip logic to reduce participant burden and took a median of 21 minutes to complete. A few questions in the survey were mandatory, these asked about the respondents’ 1) willingness to participate in the survey; 2) school verification; and 3) grade level. The remaining survey questions 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.

Student participation was voluntary and anonymous. Consent procedures were consistent with school district guidelines. In a passive consent protocol, parents could opt their children out of the survey if they did not want them to participate. In an active consent protocol, only students who returned a consent form signed by the parent could participate in the survey. All participating districts accepted passive consent. 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 2019–20 CSTS

Table 32 provides information about the number of schools and students that participated in the 2019–20 survey for each of the three grades. The total sample included 8,276 students from 14 schools. Grades 10 and 12 were considered high school, and grade 8 was considered middle school.

Table 32. Numbers of participating schools and students, Santa Clara County middle schools vs. high schools

	Middle school (8 th)	High school (10 th & 12 th)	Total
Number of schools	2	12	14
Number of students	561	7,715	8,276

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 schools in less densely populated (and more rural) regions, with higher African American enrollment, and with funding from the California Tobacco-Use Prevention Education (TUPE) program. Middle schools were sampled using simple statewide random sampling without stratification by region or county. High schools were stratified by region. For high schools, the state was divided into 35 regions based on geographic contiguity and cultural similarity. Participating middle schools were encouraged to survey all 8th graders, while high schools were encouraged to survey all 10th and 12th graders. For the minority of schools that chose not to survey all students in the eligible grades, five class sections within a grade were randomly sampled for participation.

Santa Clara County was considered its own region (Region 29). For high schools, Santa Clara County conformed to the statewide CSTS sample for this report. All 12 high schools from Santa Clara County were represented in the statewide CSTS sample. The middle schools that were analyzed for this report were sampled as part of the statewide survey. Participating schools in Santa Clara County chose to survey all students in eligible grades, as opposed to a random sample of class sections.

Analysis

The CSTS design utilized stratified random sampling and proper weighting to provide stable statewide prevalence rates. For high schools, Santa Clara County conformed to the statewide sampling strategy. Middle schools were sampled as part of the statewide survey design without stratification by the county. Therefore, the data for 8th grade students may not be representative of 8th graders in the county and must be interpreted cautiously. Data are weighted to account for the study's sampling design, and the weighting procedure is described elsewhere.¹⁴ In addition, as more than 5% of the county's students participated in the survey, a finite population correction was applied in the analyses. All estimates include 95% confidence intervals. A difference test was performed for two estimates with overlapping confidence intervals to determine a significant difference (i.e., $p < 0.05$) as needed.

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* 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, these groups were combined in the *Other* category. In line with other surveys, students who identified as *Hispanic* were labeled as such regardless of the other races selected. Students who selected multiple races were grouped as *Multiple* in tables that included racial/ethnic categories.

Race/ethnicity categories of the CSTS are similar to those used by the California Department of Education (CDE), allowing us to compare the percentage of each race/ethnicity (Table 36). In many cases, the percentage of each race/ethnicity was similar between the CSTS and CDE enrollment data. Of note, the percentage of *Multiple* race/ethnicity was far higher in the CSTS than reported by the CDE (10.7 vs. 3.7%, respectively). One possible reason for the difference is that the 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, the issue of how to analyze race/ethnicity data will continue to be relevant for the CSTS.¹⁶

Table 33. Percentage of race/ethnicity categories in the CSTS and CDE enrollment data

	CSTS Sample		CDE Enrollment	
	N=8163	(%)	N=59919	(%)
NH-White	1125	13.8	12376	20.7
NH-African American/Black	125	1.5	1217	2.0
Hispanic	2628	32.2	21723	36.3
NH-Asian	3136	38.4	21677	36.2
NH-AI/AN	27	0.3	173	0.3
NH-NHOPI	87	1.1	289	0.5
NH-Other	199	2.4	260	0.4
NH-Multiple	836	10.2	2204	3.7

Note: CDE enrollment data were restricted to schools that were considered eligible to participate in the CSTS. 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 34 compares how individuals were labeled using usual methods as to whether they endorsed a given race at all. It is clear that students tended to endorse multiple responses and, in particular, underrepresented races. For example, under the usual classification of labeling, the number of African American/Black students was 125 (i.e., non-Hispanic African American/Black who did not endorse any other racial identity). However, there were more than four times as many students who indicated their race was African American/Black (including those who also indicated they were Hispanic or who selected at least one other racial category). This phenomenon was even more striking for Whites (n=1,125 vs. 2,396 depending on the categorization strategy), Native Hawaiian or Other Pacific Islanders (n=87 vs. 462) and for American Indian or Alaska Natives (n=27 vs. 280).

Table 34. Percentage of labeled and endorsed race/ethnicity

	Labeled		Endorsed	
	N=8163	(%)	N=8163	(%)
White	1125	13.8	2396	29.9
African American/Black	125	1.5	392	4.9
Hispanic	2628	32.2	2628	32.2
Asian	3136	38.4	3935	49.2
AI/AN	27	0.3	280	3.5
NHOPI	87	1.1	462	5.8
Other	199	2.4	1938	24.2
Multiple	836	10.2	--	--

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: AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

APPENDIX C – Supplementary Tables

Table A. Prevalence of ever and current use of tobacco products among high school students

	Ever use N=7713 % (95% CI)	Current use N=7713 % (95% CI)
Any of the below	25.3 (21.5-29.1)	8.6 (7.1-10.1)
Vapes	23.0 (19.4-26.6)	7.7 (6.4-9.1)
Cigarettes	4.7 (3.6-5.8)	1.0 (0.7-1.3)
LCC	5.9 (4.2-7.7)	1.5 (1.0-2.0)
Big cigars	1.7 (1.2-2.2)	0.4 (0.3-0.5)
Hookah	3.5 (2.9-4.1)	0.5 (0.4-0.6)
Smokeless	1.3 (0.9-1.7)	0.4 (0.3-0.5)
HTP	0.6 (0.4-0.8)	0.2 (0.1-0.3)

Abbreviations: LCC = little cigars or cigarillos; HTP = heated tobacco products.

Table B. Frequency of current vape use among those high school students who were current vapers

	Current vape use N=576 % (95% CI)
1 or 2 days	39.5 (35.5-43.6)
3-5 days	15.5 (12.5-18.6)
6-19 days	21.4 (19.2-23.5)
20-30 days	23.6 (17.6-29.6)

Table C. Proportion using flavored products among those high school students who were current users of a given tobacco product

	N	Flavored product use % (95% CI)
Vapes	580	96.3 (94.7-97.8)
Cigarettes*	70	52.6 (42.0-63.3)
LCC	112	78.9 (72.9-84.8)
Big cigars	28	54.3 (44.1-64.4)
Hookah	37	83.4 (70.4-96.5)†
Smokeless	29	73.7 (60.3-87.2)

Abbreviations: LCC = little cigars or cigarillos.

**Menthol* was the only available flavor for cigarettes.

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

Table D. Perceived reasons for vaping among high school students

People my age use vapes with nicotine or just flavoring because...	Overall	
	N	% (95% CI)
their friends use them	7636	88.2 (86.3-90.2)
they come in lots of flavors	7632	74.9 (73.1-76.8)
they look interesting and cool	7634	75.9 (73.8-78.0)
they are healthier than cigarettes	7632	59.5 (57.2-61.9)

Table E. Percentage of high school students who believed that adults would feel negatively about them or another adult if they vaped or smoked

Adults would feel negatively about...	Vaping nicotine		Smoking cigarettes	
	N	% (95% CI)	N	% (95% CI)
the student	7652	97.2 (96.7-97.6)	7655	97.6 (97.3-97.9)
another adult	7617	91.0 (89.6-92.4)	7620	90.9 (89.3-92.4)

Table F. Percentage of high school students who believed that their close friends or other students at their school would view vaping or smoking negatively

Negative views of use among...	Vaping nicotine		Smoking cigarettes	
	N	% (95% CI)	N	% (95% CI)
close friends	7628	76.9 (73.5-80.4)	7627	93.2 (92.4-94.0)
other students at school	7594	44.1 (39.7-48.5)	7600	82.6 (80.2-85.1)

Table G. Prevalence of complete home bans on vaping and tobacco smoking among high school students

	Complete home ban	
	N	% (95% CI)
On vaping	7627	86.7 (84.5-89.0)
On tobacco smoking	7608	87.6 (85.5-89.7)

Table H. Prevalence of last 2-week exposure to vapor and tobacco smoke* in a room and car among high school students

	Vapor		Tobacco smoke*	
	N	% (95% CI)	N	% (95% CI)
Exposure in a room	7638	29.3 (24.8-33.7)	7649	7.4 (6.6-8.2)
Exposure in a car	7647	16.2 (13.9-18.5)	7661	5.3 (4.2-6.4)

*Two products: Cigarettes and little cigars or cigarillos (LCC)

Table I. Percentage of housing types among high school students

	Overall N=7581 % (95% CI)
House	70.1 (63.1-77.2)
Multi-unit housing	21.6 (15.5-27.7)
Other	3.1 (2.2-4.0)
Not specified	5.2 (4.0-6.4)

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