



Results of the 2022 California Youth Tobacco Survey

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EXECUTIVE SUMMARY

This report summarizes the main results from the 2022 California Youth Tobacco Survey, formerly known as the California Student Tobacco Survey. The California Youth Tobacco Survey is administered annually to 8th-, 10th-, and 12th-grade students from California middle and high schools. Data collection for the 2022 survey occurred between January and June of 2022. Schools and classrooms within schools were randomly selected. The sample was designed to provide statewide estimates of tobacco use among youth in California. In 2022, 96 schools fielded the survey and 11,545 students consented to participate in the survey and provided valid survey data (see Appendix B for additional information). The survey was administered online during the school day. Most respondents completed the survey at school, except for those engaged in virtual learning or independent study.

The survey was designed to assess the use of, knowledge of, and attitudes towards tobacco products, including cigarettes, vapes, little cigars or cigarillos (LCCs), cigars, hookah, smokeless tobacco, heated tobacco products, and nicotine pouches. The survey also examined the social and environmental exposure to many tobacco products. Marijuana and alcohol were included in the survey because the co-use of marijuana and alcohol with tobacco products is common. This report focuses on high school respondents (5,002 10th-graders and 3,907 12th-graders). Key results for 8th-graders (2,636 respondents) are presented in Chapter 10.

Appendix B provides a brief overview of the survey methodology. Additional details about the sampling strategy, survey administration, and statistical analysis can be found in the *Technical Report on Analytic Methods and Approaches Used in the California Youth Tobacco Survey 2022*, by Dutra et al.¹

Key Findings

Tobacco Use Behavior (Chapters 1, 2, and 3)

- In 2022, 20.3% of California high school respondents had ever used any tobacco product, and 6.6% used tobacco in the last 30 days since completing the survey.
- Vapes were the most used tobacco product among high school respondents, regardless of gender, race/ethnicity, and grade.
- Ever use of vapes was 17.6% among high school respondents, and current use was 5.6%.
- Ever cigarette smoking prevalence was 5.3%; 1.2% of high school respondents reported currently smoking.
- Current prevalence was less than 1% for LCCs, cigars, heated tobacco products, smokeless tobacco, hookah, and nicotine pouches.

¹ Dutra, L. M., Ingold-Smith, M., Rotermund, S., & Levine, B. (2022). *Technical report for the California Youth Tobacco Survey 2022*. RTI International.

- Tobacco use prevalence varied by gender; race/ethnicity; grade; lesbian, gay, bisexual, transgender, queer or questioning (LGBTQ+) status; mental health; rurality; and experiences of discrimination.
- Approximately a quarter (26.2%) of current tobacco users reported using two or more tobacco products, and polytobacco use varied by LGBTQ+ status.
- Almost all current tobacco users reported using flavored tobacco products (86.3%), with flavored tobacco use being highest for vapes (91.7%) out of all tobacco products. Fruit was the most popular flavor of vapes reported by current vapers.
- Use of flavored tobacco was highest among males (88.1%) and 12th-grade respondents (87.5%). Comparisons by race/ethnicity were not possible due to small sample sizes.
- About half of current vapers reported attempting to quit vaping in the last 12 months (40.5%), and approximately the same amount reported intending to quit vaping in the next 30 days (42.1%).

Methods of Accessing Vapes and Cigarettes (Chapter 4)

- Among current vapers, the most commonly reported method of obtaining vapes was buying them (34.2%). Among vapers who reported buying their own vapes, the most common method of obtaining them was from a vape shop (31.4%).
- Among current cigarette smokers, the most commonly reported method of obtaining cigarettes was buying them (25.5%).
- Reports of respondents buying their own vapes or cigarettes varied by grade.
- Overall, high school respondents reported that it was easy to obtain vapes and cigarettes, but responses varied based on source (a store, the Internet, or someone else).

Tobacco Susceptibility and Knowledge, Attitudes, and Beliefs (Chapters 5 and 6)

- Overall, 44.7% of respondents were susceptible to any tobacco product, and 40.7% were susceptible to vapes specifically.
- Among high school respondents who had never smoked, 16.9% were susceptible to future cigarette smoking.
- Among respondents who had never smoked LCCs, 20.4% were susceptible to future use of LCCs.
- Susceptibility to vapes, cigarettes, and LCCs varied by gender, race/ethnicity, and mental health status.
- The most commonly endorsed reason for vaping (among current vapers) was to relax or relieve stress and anxiety (35.4%).
- Most respondents believed that adults who were important to them viewed vaping and smoking cigarettes negatively (96.2% and 97.1%, respectively).

- Perceived approval of vaping and smoking among peers varied by product. About half (52.9%) of respondents reported that other respondents at school would view vaping negatively, while almost all (86.0%) reported that their peers would view smoking negatively.

Secondhand Exposure and Other Environmental Influences (Chapter 7)

- Regarding secondhand vapor exposure, 22.8% of high school respondents reported being exposed to secondhand vapor in a car or room in the last 2 weeks. About a third (34.3%) reported being exposed to secondhand vapor outside.
- For secondhand smoke exposure, 10.5% of high school respondents reported being exposed to secondhand smoke in a car or room in the last 2 weeks. About half (46.3%) reported being exposed to secondhand smoke outside.
- Among high school respondents who reported living in multiunit housing (29.3%), approximately half (52.6%) reported being exposed to secondhand smoke in multiunit housing in the last 6 months.
- Current vapers and smokers reported higher prevalence of exposure to secondhand vapor or tobacco smoke in the last 2 weeks, compared with former and never users.
- Most high school respondents reported having a complete home ban on vaping (80.6%) and tobacco smoking (79.2%).
- Some 3.7% of respondents reported having a favorite vaping advertisement.
- Two-thirds (68.6%) of respondents reported being exposed to vaping (rarely, sometimes, often, or always) on social media in the last 30 days.
- About half of respondents (51.6%) reported being exposed to smoking on social media (rarely, sometimes, often, or always) in the last 30 days.
- Less than half of respondents (40.9%) reported paying any attention to social media posts about vaping.

Tobacco Endgame (Chapter 8)

- About half (58.5%) of high school respondents reported that they supported a ban on the sale of all tobacco products.
- Two-thirds (69.9%) of high school respondents reported that they supported a ban on public use of cigarettes and LCCs.
- Two-thirds (63.1%) of high school respondents reported that they supported a ban on the sale of all flavored tobacco.
- In general, never vapers and never cigarette smokers were most supportive of tobacco endgame policies, followed by former and current users. One exception was support for a flavored tobacco ban, which had similar levels of support across smoking status.
- Level of support of endgame policies varied by gender, race/ethnicity, and grade.

Marijuana Use and Tobacco-Marijuana Co-Use (Chapter 9)

- Some 21.4% of high school respondents reported having ever used marijuana, while 8.8% reported using it in the last 30 days.
- Current marijuana use was higher than current use of any tobacco among high school respondents (8.8% vs. 6.5%, respectively).
- Current marijuana use varied by gender, race/ethnicity, and grade.
- Among current marijuana users who reported having ever used more than one mode of administration for marijuana, smoking (48.8%) and vaping (32.9%) were the most common modes of administration of marijuana used in the last 30 days.
- Among all high school respondents, the prevalence of current use of marijuana only (4.5%) and the prevalence of co-use of marijuana and any tobacco product (4.2%) were approximately the same.
- The tobacco product most commonly used with marijuana (of vapes, cigarettes, and LCCs) was LCCs, with 84.3% of current LCC users also reporting currently using marijuana.
- Some 17.4% of high school respondents reported being exposed to marijuana smoke in a car or room in the last 2 weeks, and 29.0% reported being exposed outside.
- A higher percentage of current marijuana users reported being exposed to secondhand marijuana smoke than former or never users.
- Among current marijuana users, the most commonly endorsed methods of obtaining the product were buying it (35.9%) and someone giving it to the respondent (30.3%). Among those who reported purchasing their own marijuana, the most common methods of obtaining marijuana were from a store or dispensary (40.5%) or from someone else (40.4%).

8th-Grade Tobacco Use (Chapter 10)

- Prevalence of current tobacco use was lower for 8th-grade respondents (4.0%) than high school respondents (6.6%).
- Vaping was the most common form of current tobacco use (3.4%), followed by current use of cigarettes and LCCs (both 0.4%), among 8th-grade respondents.
- Current tobacco use was highest among 8th-grade respondents who identified their gender in another way and were African American or Black.
- Almost all 8th-grade respondents who currently vaped reported using flavored vapes (92.8%).
- Respondents who were current vapers most commonly acquired vapes by getting them from someone else (26.8%) or by asking someone to buy them (22.9%).
- Among 8th-grade respondents, 3.1% reported current marijuana use, and 9.3% reported ever marijuana use.

CHAPTER 1 – Tobacco Use Behavior

This chapter presents high school tobacco use behavior data from the 2022 California Youth Tobacco Survey (CYTS), including both ever use and current use of various tobacco products. *Ever use* is defined as use within a lifetime and *current use* is defined as use within the last 30 days. In this report, the terms current use and last-30-day use are used interchangeably. This chapter also provides the overall prevalence rates of tobacco products and the frequency of current use of products. Additionally, it presents the use of multiple tobacco products (i.e., polytobacco use). Lastly, this chapter includes tobacco use by demographics commonly found in surveys, specifically, gender, race/ethnicity, and grade. For tobacco use among 8th-grade respondents, please see Chapter 10.

Tobacco Use Among High School Respondents

The language used to refer to electronic vaping products (EVPs) and the popularity of specific brands is constantly changing. We modified the wording of these questions slightly from the previous survey (2019–2020 California Student Tobacco Survey) to fit the products in the market at the time of the survey. For example, the previous survey asked separate questions about hookah pens and other types of EVPs. Due to the decline in popularity of hookah pens, a separate section for these products no longer exists in the survey. Instead, hookah pens are listed as one type of EVP at the beginning of the section on EVPs. We also asked respondents not to include marijuana products when answering questions about the use of tobacco products.

Table 1 presents ever and current use of tobacco products among high school respondents. The first row of Table 1 indicates the use of any of the listed products. Current use of any tobacco product was 6.6%, with vaping being most popular (5.6%). The use of tobacco products other than vapes was small. Current use of cigarettes was 1.2%. Less than 1% of high school respondents reported current use of LCCs (0.6%), cigars (0.6%), hookah (0.4%), smokeless tobacco (0.3%), or heated tobacco products (0.3%). For nicotine pouches, 2.4% of high school respondents reported ever use, and 0.6% reported current use of these products.

Table 1. Prevalence of ever and current use of tobacco products among high school respondents

Tobacco product	Ever use N = 8,909 % (95% CI)	Current use N = 8,909 % (95% CI)
Any tobacco use	20.3 (18.4–22.2)	6.6 (5.4–8.1)
Vapes	17.6 (15.9–19.4)	5.6 (4.5–6.9)
Cigarettes	5.3 (4.3–6.6)	1.2 (0.7–2.0)
LCCs	2.1 (1.7–2.6)	0.6 (0.4–0.8)
Cigars	3.1 (2.4–3.9)	0.6 (0.4–0.8)
Hookah	2.2 (1.8–2.6)	0.4 (0.3–0.6)
Smokeless	1.3 (0.9–1.8)	0.3 (0.2–0.5)
HTPs	0.9 (0.6–1.2)	0.3 (0.2–0.5)
Nicotine pouches	2.4 (1.9–2.9)	0.6 (0.4–0.9)

Note. HTPs = heated tobacco products; LCCs = little cigars or cigarillos.

Frequency of Tobacco Use

The 2022 CYTS asked current users of a tobacco product to indicate how many days they used the product within the last 30 days. Table 2 presents the mean frequency of use among current users of a product. Of the 5.6% of high school respondents who reported vaping in the last 30 days, 38.3% reported frequent vaping (20 or more days in the last 30 days). Among current vapers, 27.5% reported vaping daily in the last 30 days (daily use not shown in table). For cigarettes and nicotine pouches, using the product either 1 day or 2 days were the most common responses. Frequent use (20 or more days in the last month) was the most common response for users of vapes. Sample sizes were too small for LCCs and hookah to determine the most common frequency of use. Smokeless tobacco was excluded from the table because of small sample sizes ($n = 31$).

Table 2. Frequency of current use among high school respondents who were current users of a given tobacco product

Tobacco product	N	1 or 2 days % (95% CI)	3–5 days % (95% CI)	6–19 days % (95% CI)	20–30 days % (95% CI)
Vapes	524	29.1 (24.3–34.3)	15.4 (12.3–19.0)	17.2 (13.6–21.2)	38.3 (33.4–43.4)
Cigarettes	121	38.8 [†] (24.2–55.0)	17.1 (10.2–26.2)	18.5 (9.9–30.2)	25.6 (14.2–40.0)
LCCs	55	41.6 [†] (26.4–58.1)	16.6 [†] (6.9–31.4)	8.3 [†] (1.6–23.4)	— —
Cigars	54	— —	9.5 [†] (2.2–24.3)	10.4 [†] (2.9–24.8)	— —
Hookah	46	47.1 (32.6–62.0)	— —	11.9 [†] (3.1–28.8)	32.1 [†] (17.1–50.3)
HTPs	35	41.0 [†] (23.0–61.0)	8.4 [†] (1.4–24.9)	8.3 [†] (1.6–22.9)	— —
Nicotine pouches	57	48.8 [†] (32.1–65.7)	17.0 [†] (5.7–35.6)	4.6 [†] (0.6–15.9)	29.5 [†] (14.3–49.1)

Note. HTPs = heated tobacco products; LCCs = little cigars or cigarillos.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Tobacco Use by Gender, Race/Ethnicity, and Grade

Table 3 presents ever and current tobacco use prevalence among high school respondents by gender, race/ethnicity, and grade. The gender identity category “identified in another way” includes respondents who reported their gender as “something else” or “I’m not sure yet.” The “declined to answer” gender category represents those who skipped this question. The race/ethnicity variable was created by combining responses to two questions about Hispanic ethnicity and race. In addition, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and respondents who did not identify with any of the races listed in the survey were collapsed into a category called “other” due to small sample sizes. Table 3 is the only table in the report that shows the individual categories that compose the “other” race/ethnicity category, with the exception of American Indian or Alaska Native, which were excluded due to small sample sizes ($n = 18$). For more information on demographic variables used in the survey, see Appendix A.

Table 3. Prevalence of ever and current tobacco use among high school respondents, by gender, race/ethnicity, and grade

Characteristic	<i>N</i>	Ever use % (95% CI)	Current use % (95% CI)
Overall	8,909	20.3 (18.4–22.2)	6.6 (5.4–8.1)
Gender			
Male	3,951	19.3 (17.0–21.8)	6.1 (4.8–7.6)
Female	3,841	20.1 (17.5–23.0)	5.9 (4.5–7.6)
Identified in another way	533	25.4 (21.2–30.0)	10.1 (6.7–14.4)
Declined to answer	55	—	9.4 [†] (3.7–18.9)
Race/ethnicity*			
White	1,935	24.0 (19.7–28.7)	10.2 (7.0–14.1)
African American or Black	396	20.2 (13.7–28.0)	5.8 (3.1–9.8)
Hispanic	5,014	20.2 (18.5–22.1)	5.6 (4.6–6.7)
Asian	705	12.8 (8.4–18.3)	3.5 (1.9–5.9)
Other	231	20.3 (14.6–27.0)	7.4 (4.0–12.2)
Native Hawaiian or other Pacific Islander	37	13.0 [†] (3.5–30.6)	3.0 [†] (0.1–15.3)
Race not captured by survey	176	20.0 (13.3–28.1)	7.9 (4.2–13.3)
Multiracial	617	20.3 (15.7–25.5)	7.3 (4.6–10.8)
Grade			
10	5,002	17.2 (15.3–19.3)	5.1 (3.9–6.5)
12	3,907	23.7 (21.1–26.5)	8.3 (6.5–10.4)

* With the exception of Hispanic, all ethnicities are classified as non-Hispanic. The following groups are included in the other race category: American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and any race not captured by the survey. The table also shows the individual categories that make up “other” race. American Indian or Alaska Native respondents are not shown due to a small sample size ($n = 18$).

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Respondents who identified their gender in another way (10.1%) or declined to answer the question about gender identity (9.4%) had a higher prevalence of current use of any tobacco product than those who identified as female (5.9%) or male (6.1%).

There were racial/ethnic differences in current use of any tobacco product. Non-Hispanic White (hereafter, White) high school respondents had the highest current use (10.2%). Native Hawaiian or other Pacific Islander respondents had the lowest current use (3.0%). Current use was higher among 12th-graders (8.3%) than 10th-graders (5.1%).

Tables 4–6 examine the use of specific tobacco products across various respondent demographics. Table 4 shows that, for current vaping, respondents who identified their gender in another way (7.3%) had higher current vaping than respondents who identified as female (5.1%) or male (5.2%) or declined to report gender identity (5.9%). Respondents who identified their gender in another way (3.6%) or declined to report gender identity (3.8%) had higher prevalence of current cigarette smoking compared with females and males (both 1.0%).

Table 4. Prevalence of current tobacco use among high school respondents, by gender

Tobacco product	Male	Female	Identified in	Declined to
	<i>N</i> = 3,951 % (95% CI)	<i>N</i> = 3,841 % (95% CI)	another way <i>N</i> = 533 % (95% CI)	answer <i>N</i> = 55 % (95% CI)
Any of the below	6.1 (4.8–7.6)	5.9 (4.5–7.6)	10.1 (6.7–14.4)	9.4† (3.7–18.9)
Vapes	5.2 (4.2–6.5)	5.1 (3.8–6.7)	7.3 (4.5–10.9)	5.9† (1.8–13.6)
Cigarettes	1.0 (0.5–1.7)	1.0 (0.5–2.0)	3.6 (2.0–5.9)	3.8† (0.5–12.6)
LCCs	0.6 (0.3–0.9)	0.3 (0.1–0.6)	2.4 (1.2–4.3)	— —
Cigars	0.8 (0.4–1.3)	0.2 (0.0–0.4)	1.4 (0.4–3.3)	— —
Hookah	0.3 (0.2–0.6)	0.3 (0.1–0.6)	1.8 (0.8–3.3)	0.3 (0.0–1.5)
Smokeless	0.3 (0.1–0.5)	0.2 (0.1–0.5)	1.5 (0.6–2.9)	1.1† (0.0–6.1)
HTPs	0.2 (0.1–0.4)	0.2 (0.1–0.4)	1.8 (0.8–3.6)	0.3 (0.0–1.5)
Nicotine pouches	0.6 (0.3–1.0)	0.4 (0.2–0.7)	1.9 (0.9–3.4)	1.3† (0.1–6.0)

Note. HTPs = heated tobacco products; LCCs = little cigars or cigarillos.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 5 presents current use of tobacco products by race/ethnicity. White respondents had the highest current use of vapes (9.1%) and cigarettes (2.6%). Current vaping was lowest for Asian respondents (3.2%), and current cigarette smoking was lowest for non-Hispanic other (hereafter, other) race respondents (0.1%).

Table 5. Prevalence of current tobacco use among high school respondents, by race/ethnicity

Tobacco product	White	African American / Black	Hispanic	Asian	Other	Multiracial
	<i>N</i> = 1,935 % (95% CI)	<i>N</i> = 396 % (95% CI)	<i>N</i> = 5,014 % (95% CI)	<i>N</i> = 705 % (95% CI)	<i>N</i> = 231 % (95% CI)	<i>N</i> = 617 % (95% CI)
Any of the below	10.2 (7.0–14.1)	5.8 (3.1–9.8)	5.6 (4.6–6.7)	3.5 (1.9–5.9)	7.4 (4.0–12.2)	7.3 (4.6–10.8)
Vapes	9.1 (6.4–12.5)	5.2 (3.0–8.5)	4.6 (3.7–5.6)	3.2 (1.7–5.5)	5.7 [†] (2.7–10.4)	5.4 (3.5–8.0)
Cigarettes	2.6 (1.2–5.0)	1.7 (0.5–4.3)	0.7 (0.5–1.1)	0.4 (0.1–1.3)	0.1 (0.0–0.7)	2.0 (0.9–3.8)
LCCs	0.5 (0.2–1.0)	1.2 (0.3–3.3)	0.6 (0.3–0.9)	0.1 (0.0–0.6)	0.6 (0.1–2.5)	0.9 (0.3–2.3)
Cigars	0.8 (0.3–1.4)	0.7 (0.1–2.1)	0.6 (0.3–0.8)	0.2 (0.0–0.8)	0.6 (0.0–2.5)	0.4 (0.0–1.2)
Hookah	0.4 (0.2–0.8)	0.7 (0.1–2.8)	0.4 (0.2–0.7)	— —	1.2 (0.2–3.8)	0.8 (0.2–2.0)
Smokeless	0.3 (0.1–0.8)	0.7 (0.1–2.8)	0.3 (0.2–0.5)	— —	1.1 (0.2–3.9)	0.5 (0.1–1.5)
HTPs	0.2 (0.1–0.5)	0.7 (0.1–2.8)	0.3 (0.1–0.5)	— —	1.2 (0.2–3.9)	0.5 (0.1–1.5)
Nicotine Pouches	0.7 (0.3–1.6)	0.7 (0.1–2.8)	0.5 (0.3–0.8)	0.1 (0.0–0.7)	0.6 (0.0–2.5)	1.1 (0.3–2.6)

Note. HTPs = heated tobacco products; LCCs = little cigars or cigarillos.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

[†] The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 6 presents tobacco use among high school respondents by grade. Current use of any tobacco product was higher among 12th-graders than 10th-graders (8.3% and 5.1%, respectively); this was also the case for most of the specific tobacco products.

Table 6. Prevalence of current tobacco use among high school respondents, by grade

Tobacco product	Grade 10 N = 5,002 % (95% CI)	Grade 12 N = 3,907 % (95% CI)
Any of the below	5.1 (3.9–6.5)	8.3 (6.5–10.4)
Vapes	4.2 (3.2–5.4)	7.2 (5.6–9.1)
Cigarettes	0.9 (0.5–1.5)	1.6 (0.9–2.7)
LCCs	0.6 (0.3–1.0)	0.6 (0.3–0.9)
Cigars	0.5 (0.2–0.9)	0.7 (0.4–1.0)
Hookah	0.4 (0.2–0.6)	0.5 (0.2–0.8)
Smokeless	0.2 (0.1–0.4)	0.4 (0.2–0.7)
HTPs	0.3 (0.1–0.7)	0.2 (0.1–0.5)
Nicotine pouches	0.5 (0.3–0.7)	0.7 (0.4–1.1)

Note. HTPs = heated tobacco products; LCCs = little cigars or cigarillos.

Polytobacco Use

Table 7 presents the current use of multiple tobacco products, often referred to as polytobacco use. Some estimates are imprecise due to small sample sizes. Overall, 26.2% of current tobacco users in high school reported using two or more tobacco products. Due to small sample sizes, we excluded from the table respondents who declined to answer questions about gender. Of the remaining categories, current tobacco users who identified their gender another way reported the highest prevalence of polytobacco use (38.1%). Polytobacco use was similar for 12th-grade (26.3%) and 10th-grade respondents (26.0%).

Table 7. Prevalence of current polytobacco use among current tobacco users in high school, by gender, race/ethnicity, and grade

Characteristic	N	Use only one tobacco product		Use two or more tobacco products	
		%	(95% CI)	%	(95% CI)
Overall	632	73.8	(67.7–79.3)	26.2	(20.7–32.3)
Gender					
Male	257	70.4	(61.8–78.0)	29.6	(22.0–38.2)
Female	237	79.5	(69.5–87.5)	20.5	(12.5–30.5)
Identified in another way	65	61.9†	(45.9–76.2)	38.1†	(23.8–54.1)
Declined to answer	8	—	—	—	—
Race/ethnicity					
White	219	68.6	(58.0–77.9)	31.4	(22.1–42.0)
African American or Black	26	—	—	—	—
Hispanic	290	77.1	(71.2–82.3)	22.9	(17.7–28.8)
Asian	28	—	—	—	—
Other	20	—	—	—	—
Multiracial	49	—	—	—	—
Grade					
10	267	74.0	(65.1–81.7)	26.0	(18.3–34.9)
12	365	73.7	(66.2–80.4)	26.3	(19.6–33.8)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Vaping Cessation

Because vapes were the most commonly reported tobacco product used by youth in the 2022 CYTS, and because of changes in youth access to vaping during the COVID-19 pandemic,² we examined quit attempts among current vapers and their intention to quit vaping in the future. Appendix A provides additional information about these variables.

Among respondents who currently vape, 40.5% reported attempting to quit vaping in the last 12 months. Among vapers, 42.1% reported intending to quit vaping in the next 30 days.

Summary

In 2022, the most frequently used tobacco product among California high school respondents was vapes, with 5.6% reporting current use and 17.6% reporting ever use. Current use of cigarettes was 1.2%, and current use of LCCs, cigars, hookah, smokeless tobacco, heated

² Gaiha, S. M., Lempert, L. K., & Halpern-Felsher, B. (2020). Underage youth and young adult e-cigarette use and access before and during the Coronavirus disease 2019 pandemic. *Jama Network Open*, 3(12): e2027572.

tobacco products (HTPs), and nicotine pouches were all less than 1.0%. Tobacco use was higher among respondents who were White and in 12th grade (compared with 10th grade). Respondents who identified their gender as female or male tended to have a lower prevalence of tobacco use compared with respondents who identified their gender in another way. About a quarter (26.2%) of current tobacco users reported using two or more tobacco products. Quit attempts and intention to quit were both common among current vapers.

CHAPTER 2 – Tobacco Use Behavior Among Specific Populations

This chapter presents high school tobacco use among specific populations. Because of high observed tobacco use among members of priority populations, the chapter examines use by lesbian, gay, bisexual, transgender, queer or questioning (LGBTQ+) status³; mental health⁴; rurality⁵; and experiences of discrimination.^{6,7} Because of high use of multiple tobacco products among LGBTQ+ individuals, this chapter also examines polytobacco use by LGBTQ+ status. In addition, this chapter examines characteristics of current vapers who attempted to quit vaping in the last 12 months and who intended to quit vaping in the next 30 days. For tobacco use among 8th-grade respondents by demographics, see Chapter 10.

Tobacco Use by LGBTQ+ Status

Respondents were asked to indicate their sexual orientation and gender identity in two separate questions. Using responses from these questions, three categories of LGBTQ+ status were created: LGBTQ+, non-LGBTQ+, and unclear LGBTQ+ status. See Appendix A for additional information on this variable.

Table 8 presents tobacco use by LGBTQ+ status. LGBTQ+ respondents had higher prevalence of any current tobacco use (10.8%) than non-LGBTQ+ respondents (5.2%) and those of unclear LGBTQ+ status (6.3%). LGBTQ+ respondents and those with unclear LGBTQ+ status generally had a higher prevalence of tobacco use for specific tobacco products than respondents who identified as non-LGBTQ+. Vapes were the most commonly used product across all groups. Current vaping was 8.2% among LGBTQ+ respondents, 4.8% among respondents with unclear LGBTQ+ status, and 4.6% among non-LGBTQ+ respondents.

³ Creamer, M. R., Everett Jones, S., Gentzke, A. S., Jamal, A., & King, B. A. (2020). Tobacco product use among high school students – Youth Risk Behavior survey, United States, 2019. *MMWR*, *69*(1), 56–63.

⁴ National Institute on Drug Abuse. (2022). *Research report: Tobacco, nicotine, and e-cigarettes research report*. <https://nida.nih.gov/download/1344/tobacco-nicotine-e-cigarettes-research-report.pdf?v=4b566e8f4994f24caa650ee93b59ec41>.

⁵ Pesko, M. F., & Robarts, A. M. T. (2017). Adolescent tobacco use in urban versus rural areas of the United States: The influence of tobacco control policy environments. *Journal of Adolescent Health*, *61*, 70–70.

⁶ Dutra, L. M., Williams, D. R., Kawachi, I., & Okechukwu, C. A. (2014). Racial and nonracial discrimination and smoking status among South African adults ten years after apartheid. *Tobacco Control*, *23*(e2), e114–121. doi:10.1136/tobaccocontrol-2013-051478.

⁷ Borrell, L. N., Jacobs, D. R., Williams, D. R., Pletcher, M. J., Houston, T. K., & Kiefe, C. I. (2007). Self-reported discrimination and substance use in the Coronary Artery Risk Development in Adults Study. *American Journal of Epidemiology*, *166*(9), 1068–1079.

Table 8. Prevalence of current tobacco use among high school respondents, by LGBTQ+ status

Tobacco product	LGBTQ+* N = 1,513 % (95% CI)	Non-LGBTQ+ N = 6,084 % (95% CI)	Unclear LGBTQ+ status N = 688 % (95% CI)
Any tobacco use	10.8 (7.9–14.2)	5.2 (4.1–6.4)	6.3 (4.0–9.5)
Vapes	8.2 (5.8–11.2)	4.6 (3.7–5.8)	4.8 (2.9–7.5)
Cigarettes	3.0 (1.7–4.9)	0.6 (0.3–1.1)	2.2 (0.9–4.2)
LCCs	1.1 (0.6–1.8)	0.3 (0.2–0.5)	1.4 (0.4–3.6)
Cigars	0.7 (0.3–1.4)	0.4 (0.2–0.7)	1.0 (0.3–2.2)
Hookah	1.2 (0.7–1.9)	0.3 (0.1–0.5)	0.2 (0.0–1.1)
Smokeless	0.9 (0.5–1.5)	0.2 (0.1–0.3)	0.6 (0.1–1.6)
HTP	0.9 (0.3–1.9)	0.1 (0.1–0.3)	0.5 (0.1–1.4)
Nicotine pouches	1.1 (0.6–1.9)	0.5 (0.3–0.8)	0.6 (0.1–2.3)

Note. HTP = heated tobacco products; LCCs = little cigars or cigarillos; LGBTQ+ = lesbian, gay, bisexual, transgender, queer or questioning.

* Respondents who reported (a) their gender identity as transgender or “something else” and/or (b) identified their sexual orientation as gay or lesbian, bisexual, “something else,” or “don’t know what this question means” were considered LGBTQ+. Respondents who identified as female or male and straight (that is, not gay or lesbian) were considered non-LGBTQ+. Respondents who responded (a) unsure for gender identity and straight for sexual orientation or (b) male, female, or unsure for gender identity and unsure or “don’t know” for sexual orientation were considered to have unclear LGBTQ+ status.

Tobacco Use by General Mental Health

Table 9 presents respondents’ ever and current tobacco use according to reported general mental health (see Appendix A). Respondents who rated their mental health as poor or fair had a higher prevalence of current tobacco use (12.6% and 6.8%, respectively) than those who reported their mental health as good to excellent (5.0%). The same relationship existed for ever use (31.8% for poor mental health, 22.8% for fair, 17.0% for good to excellent mental health).

Table 9. Prevalence of ever and current tobacco use among high school respondents, by general mental health

General mental health	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	8,909	20.3 (18.4–22.2)	6.6 (5.4–8.1)
Good to excellent	5,429	17.0 (15.0–19.1)	5.0 (4.0–6.3)
Fair	2,014	22.8 (20.5–25.3)	6.8 (5.0–9.1)
Poor	1,019	31.8 (28.6–35.1)	12.6 (9.9–15.8)

Tobacco Use by Rurality

To capture tobacco use by rurality, students were divided into three categories based on the location of their schools. The categories were obtained from the National Center for Education

Statistics using school address.⁸ Further information on this variable is available in Appendix A. Table 10a presents prevalence of ever and current tobacco use by rurality. Ever use (23.0%) and current use (9.1%) were most prevalent among respondents living in towns or rural settings, compared with cities (20.7% ever, 6.6% current) and suburban areas (19.3% current, 6.1% ever).

Table 10a. Prevalence of ever and current tobacco use among high school respondents, by rurality

Rurality	N	Ever use % (95% CI)	Current use % (95% CI)
Overall	8,909	20.3 (18.4–22.2)	6.6 (5.4–8.1)
City	4,178	20.7 (18.5–23.1)	6.6 (5.0–8.6)
Suburban	3,852	19.3 (16.2–22.7)	6.1 (4.3–8.4)
Town or rural	1,887	23.0 (13.5–35.1)	9.1 [†] (2.8–20.6)

Note. Cities are defined as large territories located inside urbanized areas and principal cities. Suburbs are territories outside of principal cities but inside urbanized areas. Towns or rural areas are territories inside an urban cluster or rural territories. See Appendix A for additional information.

[†] The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Tobacco Use by Experiences of Discrimination

The 2022 CYTS was the first youth tobacco survey in California to capture experiences of discrimination. This variable was included in the CYTS based on existing literature that has established a relationship between discrimination and tobacco use among adults.^{9,10} To capture experiences of discrimination, we modified the items contained in the Everyday Discrimination Scale,¹¹ which has traditionally been used with adults, for youth. Consistent with the original scale, respondents who reported one or more of these experiences “a few times” or more frequently were also asked to specify the perceived reason(s) for these experiences. Additional information on the discrimination variable is available in Appendix A.

Because this was the first time that CYTS has included an assessment of discrimination, we first examined the prevalence of these experiences in the full sample (Table 10b). The two most

⁸ National Center for Education Statistics. (n.d.). *Education demographic and geographic estimates*. Retrieved March 1, 2023, from <https://nces.ed.gov/programs/edge/Geographic/LocaleBoundaries>.

⁹ Dutra, L. M., Williams, D. R., Kawachi, I., & Okechukwu, C. A. (2014). Racial and nonracial discrimination and smoking status among South African adults ten years after apartheid. *Tobacco Control, 23*(e2), e114–121. doi:10.1136/tobaccocontrol-2013-051478.

¹⁰ Borrell, L. N., Jacobs, D. R., Williams, D. R., Pletcher, M. J., Houston, T. K., & Kiefe, C. I. (2007). Self-reported discrimination and substance use in the Coronary Artery Risk Development in Adults Study. *American Journal of Epidemiology, 166*(9), 1068–1079.

¹¹ Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology, 2*(3), 335–351.

commonly endorsed were “you were treated with less courtesy or respect than other people” and “people acted as if they think you are not smart.” Almost half of respondents reported these experiences a few times or more frequently in the last month. The experience most commonly endorsed as occurring almost daily was “people acted as if they think you are not smart” (7.6%).

Table 10b. Prevalence of experiences of discrimination in the last month among high school respondents

Experience of discrimination	<i>N</i>	Almost every day % (95% CI)	At least once a week % (95% CI)	A few times % (95% CI)	Not at all % (95% CI)
You were treated with less courtesy or respect than other people	8,316	6.1 (5.4–6.8)	11.5 (10.5–12.6)	30.9 (29.7–32.2)	51.5 (49.6–53.4)
You received poorer service than other people at restaurants or stores	8,320	2.2 (1.9–2.6)	4.6 (3.9–5.3)	15.0 (13.9–16.2)	78.2 (76.8–79.6)
People acted as if they think you are not smart	8,309	7.6 (6.6–8.8)	11.4 (10.4–12.4)	29.2 (27.7–30.7)	51.8 (49.9–53.7)
People acted as if they are afraid of you	8,307	4.1 (3.6–4.6)	6.5 (5.9–7.3)	15.0 (13.9–16.2)	74.4 (73.0–75.7)
You were threatened or harassed	8,310	2.9 (2.5–3.3)	4.5 (3.9–5.2)	13.0 (12.0–14.0)	79.6 (78.3–80.9)

Next, we compared experiences of discrimination by tobacco user status. In general, current tobacco users reported more discrimination in the last month than tobacco nonusers (Table 10c). Among tobacco users, the two most commonly endorsed experiences of discrimination experienced in the last month were the same as for the overall sample, “you were treated with less courtesy or respect than other people” and “people acted as if they think you are not smart.” More than half of tobacco users endorsed each of these experiences a few times or more often in the past month. These were also the two most commonly reported experiences among tobacco nonusers, but tobacco users endorsed them at higher rates.

Table 10c. Prevalence of experiences of discrimination in the last month among high school respondents, by current tobacco user status

Experience of discrimination	<i>N</i>	Almost every day % (95% CI)	At least once a week % (95% CI)	A few times % (95% CI)	Not at all % (95% CI)
You were treated with less courtesy or respect than other people					
Current tobacco users	560	13.6 (10.6–17.0)	16.7 (13.5–20.3)	31.7 (27.1–36.6)	38.0 (32.3–44.1)
Current tobacco nonusers	7,756	5.6 (4.9–6.3)	11.2 (10.1–12.3)	30.9 (29.6–32.2)	52.4 (50.6–54.2)
You received poorer service than other people at restaurants or stores					
Current tobacco users	562	6.8 (4.5–9.7)	9.8 (6.7–13.7)	18.4 (14.3–23.1)	65.1 (58.8–71.0)
Current tobacco nonusers	7,758	1.9 (1.6–2.3)	4.2 (3.5–5.0)	14.8 (13.7–15.9)	79.1 (77.7–80.5)
People acted as if they think you are not smart					
Current tobacco users	558	13.7 (10.6–17.3)	17.6 (13.7–22.0)	29.7 (25.4–34.3)	39.0 (33.4–44.8)
Current tobacco nonusers	7,751	7.2 (6.2–8.4)	11.0 (10.0–12.0)	29.2 (27.6–30.7)	52.6 (50.7–54.6)
People acted as if they are afraid of you					
Current tobacco users	560	10.2 (7.4–13.7)	14.9 (11.8–18.4)	19.5 (16.1–23.1)	55.4 (50.3–60.5)
Current tobacco nonusers	7,747	3.6 (3.2–4.2)	6.0 (5.3–6.7)	14.7 (13.6–16.0)	75.6 (74.2–77.0)
You were threatened or harassed					
Current tobacco users	560	7.6 (5.3–10.4)	9.3 (6.8–12.4)	20.0 (16.2–24.4)	63.1 (57.6–68.4)
Current tobacco nonusers	7,750	2.6 (2.2–3.0)	4.2 (3.6–4.9)	12.5 (11.5–13.5)	80.8 (79.5–82.0)

Next, we examined the perceived reason for experiences of discrimination among high school students who reported one or more of the experiences of discrimination. In the overall sample, the most common perceived reasons for experiencing discrimination in the last month were some other aspect of physical appearance (34.6%) and age (32.9%). This was true for both current tobacco users and tobacco nonusers (Table 10d). Religion (8.5%), ancestry, or national origins (11.4%) and sexual orientation (12.0%) were the least commonly endorsed reasons.

Table 10d. Perceived reasons for experiencing discrimination in the last month among high school respondents, by current tobacco user status

Reason for discrimination (Select all that apply)	Total sample N = 5,386 % (95% CI)	Current tobacco users N = 438 % (95% CI)	Current tobacco nonusers N = 4,948 % (95% CI)
Age	32.9 (30.6–35.3)	37.1 (31.9–42.5)	32.6 (30.2–35.1)
Race/ethnicity	29.6 (27.5–31.9)	30.1 (24.3–36.3)	29.6 (27.4–31.9)
Gender	29.0 (26.7–31.4)	31.6 (26.3–37.2)	28.8 (26.3–31.3)
Some other aspect of physical appearance	34.6 (32.9–36.3)	38.9 (34.2–43.7)	34.3 (32.5–36.1)
Weight	21.3 (19.8–22.8)	23.3 (18.7–28.5)	21.1 (19.5–22.8)
Height	20.5 (18.9–22.2)	22.5 (17.6–28.0)	20.4 (18.6–22.2)
Ancestry or national origins	11.4 (9.6–13.5)	12.1 (8.2–17.1)	11.4 (9.4–13.6)
Household or family education or income	18.1 (16.2–20.2)	18.1 (14.0–22.8)	18.1 (16.0–20.4)
Sexual orientation	12.0 (10.6–13.5)	20.4 (16.2–25.2)	11.3 (9.8–12.9)
Religion	8.5 (7.5–9.7)	11.2 (7.0–16.8)	8.3 (7.2–9.5)
Other	18.6 (17.0–20.3)	18.1 (14.3–22.6)	18.7 (17.0–20.4)

Polytobacco Use by LGBTQ+ Status

In addition to discrimination, we also examined tobacco use by LGBTQ+ status, focusing on polytobacco use specifically. Table 11 presents current polytobacco use by LGBTQ+ status among current tobacco users.

Table 11. Prevalence of current polytobacco use among current tobacco users in high school, by LGBTQ+ status

LGBTQ+ status	N	Use only one product % (95% CI)	Use two or more products % (95% CI)
Overall	632	73.8 (67.7–79.3)	26.2 (20.7–32.3)
LGBTQ+	190	71.8 (62.9–79.5)	28.2 (20.5–37.1)
Non-LGBTQ+	325	76.2 (68.3–83.0)	23.8 (17.0–31.7)
Unclear LGBTQ+ Status	43	58.3† (42.6–72.8)	41.7† (27.2–57.4)

Note. LGBTQ+ = lesbian, gay, bisexual, transgender, queer or questioning.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Vaping Cessation Variables

Because vapes were the most commonly reported tobacco product used by youth in the 2022 CYTS, and due to changes in youth access to vaping during the COVID-19 pandemic,¹² we examined quit attempts among current vapers and their intention to quit vaping in the future. We examined their characteristics to identify differences in quit attempts and desire to quit by these factors. Appendix A provides additional information about these variables.

Among respondents who currently vape, 40.5% reported attempting to quit vaping in the last 12 months. Table 12a presents reported quit attempts in the last year among current vapers in specific populations. The prevalence of attempting to quit vaping in the last 12 months was similar for LGBTQ+ and non-LGBTQ+ respondents, but sample sizes for respondents with unclear LGBTQ+ status were too small to include this group in comparisons by LGBTQ+ status. Respondents with poor or fair mental health had a higher prevalence of quit attempts (41.3% and 43.6%, respectively) than those with good to excellent mental health (36.8%). Among respondents attending schools located in towns or rural areas, quit attempts were more common (44.8%) than among those attending schools in suburban areas (40.1%) or cities (39.5%).

Table 12a. Percentage of respondents who reported attempting to quit vaping in the last 12 months among current vapers in high school

Characteristic	<i>N</i>	Attempted to quit % (95% CI)	
Overall	535	40.5	(34.9–46.2)
Gender			
Male	219	36.9	(29.6–44.7)
Female	206	43.4	(34.5–52.7)
Identified in another way	46	35.2 [†]	(19.2–54.0)
Declined to answer	5	—	—
Race/ethnicity			
White	195	37.3	(29.5–45.7)
African American or Black	23	—	—
Hispanic	239	44.1	(35.1–53.4)
Asian	26	—	—
Other	16	—	—
Multiracial	36	39.6 [†]	(24.0–56.8)
Grade			
10	221	46.0	(36.0–56.2)
12	314	36.9	(31.7–42.4)

See notes at end of table.

¹² Gaiha, S.M., Lempert, L.K., Halpern-Felsher, B. (2020). Underage youth and young adult e-cigarette use and access before and during the Coronavirus disease 2019 pandemic. *Jama Network Open*, 3(12): e2027572.

Table 12a. Percentage of respondents who reported attempting to quit vaping in the last 12 months among current vapers in high school—Continued

Characteristic	<i>N</i>	Attempted to quit % (95% CI)	
LGBTQ+ status	.	.	.
LGBTQ+	146	40.9	(31.7–50.5)
Non-LGBTQ+	291	39.7	(32.9–46.9)
Unclear LGBTQ+ status	34	—	—
Mental health status			
Good to excellent	234	36.8	(28.6–45.7)
Fair	139	43.6	(34.2–53.4)
Poor	115	41.3	(29.6–53.9)
Rurality			
City	242	39.5	(31.4–48.0)
Suburban	215	40.1	(30.0–50.9)
Town or rural	78	44.8	(35.0–55.0)

Note. LGBTQ+ = lesbian, gay, bisexual, transgender, queer or questioning.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Among respondents who currently vape, 42.1% reported intending to quit in the next 30 days. Table 12b presents responses about intention to quit vaping in the next 30 days among current vapers. A larger portion of non-LGBTQ+ individuals reported intending to quit (44.4%) than respondents who were LGBTQ+ (39.2%) or had unclear LGBTQ+ status (23.9%). Intending to quit was more common among respondents attending schools in suburban areas (44.2%) than among those attending schools in towns or rural areas (41.3%) or cities (40.5%).

Table 12b. Percentage of respondents who reported intending to quit vaping in the next 30 days among current vapers in high school

Characteristic	<i>N</i>	Intending to quit % (95% CI)	
Overall	535	42.1	(37.0–47.4)
Gender			
Male	219	44.2	(37.3–51.4)
Female	206	42.4	(33.0–52.2)
Identified in another way	46	24.8 [†]	(11.9–42.0)
Declined to answer	5	—	—
Race/ethnicity			
White	195	40.1	(33.3–47.2)
African American or Black	23	—	—
Hispanic	239	45.8	(37.8–54.0)
Asian	26	—	—
Other	16	—	—
Multiracial	36	—	—
Grade			
10	221	47.2	(36.5–58.0)
12	314	38.9	(32.8–45.3)
LGBTQ+ status			
LGBTQ+	146	39.2	(30.8–48.1)
Non-LGBTQ+	291	44.4	(37.6–51.4)
Unclear LGBTQ+ status	34	23.9 [†]	(10.4–42.6)
Mental health status			
Good to excellent	234	40.1	(31.7–49.0)
Fair	139	42.2	(34.9–49.8)
Poor	115	41.9	(33.4–50.7)
Rurality			
City	242	40.5	(33.6–47.8)
Suburban	215	44.2	(34.8–53.9)
Town or rural	78	41.3	(27.7–56.0)

Note. LGBTQ+ = lesbian, gay, bisexual, transgender, queer or questioning.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Summary

Differences in tobacco use were evident by LGBTQ+ status, general mental health, and rurality. Generally, individuals who reported being LGBTQ+, had poor or fair mental health, and attended school in towns or rural areas also reported higher tobacco use. Among current vapers, quit attempts and intention to quit both varied across gender, grade, LGBTQ+ status, and rurality.

CHAPTER 3 – Use of Flavored Tobacco

This chapter presents the proportion of current tobacco users who used flavored products. It also presents the use of specific flavors. It should be noted that the flavored cigarette use reported in this chapter reflects the use of menthol cigarettes (the only flavor available). Additionally, HTPs, smokeless tobacco, and nicotine pouches were excluded from this chapter due to the small proportion of respondents who endorsed current use of these products; estimates of current use of any flavored tobacco product in this chapter excludes these products. For flavored tobacco use among 8th-grade respondents, see Chapter 10.

Flavored Tobacco Use

The 2022 CYTS asked current users of tobacco products which flavors they use most often for each tobacco product endorsed. While the question for menthol cigarettes asked respondents whether they had smoked flavored cigarettes, such as menthol cigarettes, in the last 30 days, the questions for other tobacco products asked respondents which flavor they usually used and provided a list of multiple flavors to choose from. We divided respondents into those who used flavored products or unflavored products. Respondents who indicated using menthol cigarettes in the last 30 days or, for all other tobacco products, any flavor other than tobacco or unflavored (including “other”), were considered flavored tobacco users (see Appendix A). Similarly, respondents who indicated not smoking menthol cigarettes in the last 30 days or, for all other products, who selected “tobacco” or “unflavored” were not considered to be using flavored products. Table 13 indicates that, for the products included in the table, the majority of tobacco users reported using a flavored tobacco product (86.3%), with the use of flavored vapes (91.7%) being the most prevalent. Approximately one-third of cigarette smokers (32.1%) reported using menthol cigarettes in the last 30 days.

Table 13. Prevalence of current flavored tobacco use among high school respondents who reported currently using each tobacco product

Tobacco product	<i>N</i> *	Flavored product use % (95% CI)
Any of the below	619	86.3 (82.3–89.7)
Vapes	529	91.7 (88.9–93.9)
Cigarettes**	124	32.1 (19.2–47.3)
LCCs	55	55.2 (40.0–69.8)
Cigars	53	37.0† (22.5–53.3)
Hookah	47	76.9† (59.4–89.5)

Note. LCCs = little cigars or cigarillos. Heated tobacco products, smokeless tobacco, and nicotine pouches were excluded from this table due to the small proportion of respondents who endorsed current use of these products.

* As the sample size for the subgroup for each product varies, estimates for each product may be greater than that of “any of the below.”

** Menthol was the only available flavor for cigarettes.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Flavored Tobacco Use by Demographics

Table 14 presents the current use of any of the following flavored tobacco products by respondent demographics: vapes, cigarettes, LCCs, cigars, or hookah. Overall, the majority of users of these products reported using a flavored tobacco product across multiple demographics. Use of flavored tobacco was highest among males (88.1%) and 12th-grade respondents (87.5%). Comparisons by race/ethnicity were not possible due to small sample sizes.

Table 14. Prevalence of current use of any flavored tobacco among high school respondents who reported currently using these products, by gender, race/ethnicity, and grade

Characteristic	<i>N</i>	Current use % (95% CI)
Overall	618	85.9 (81.7–89.4)
Gender		
Male	252	88.1 (82.5–92.4)
Female	232	84.9 (76.7–91.1)
Identified in another way	64	83.4 (70.9–92.1)
Declined to answer	7	— —
Race/ethnicity		
White	216	87.0 (80.8–91.8)
African American or Black	26	— —
Hispanic	280	85.3 (80.0–89.7)
Asian	28	— —
Other	20	— —
Multiracial	48	84.5 (70.2–93.7)
Grade		
10	260	83.5 (77.8–88.2)
12	358	87.5 (81.7–92.0)

Note. Any flavored tobacco use includes use of flavored products in one or more of the following categories: vapes, cigarettes, little cigars or cigarillos, cigars, and hookah.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

Use of Specific Flavored Tobacco Products by Demographics

The following section (Tables 15–17) presents the current use of flavored tobacco for specific products among current tobacco users across various respondent demographics, including gender, race/ethnicity, and grade.

Table 15 indicates the use of vapes, cigarettes, and cigars by gender, excluding participants who declined to answer gender identity questions; they were excluded due to small sample sizes. We excluded other tobacco products due to small sample sizes. Out of the products included in the table and for vapes specifically, males reported the highest use of flavored tobacco products (88.3% and 93.9%, respectively) out of the gender identities included in the table.

Table 15. Prevalence of current flavored tobacco product use among high school respondents who reported currently using each tobacco product by gender

Tobacco product	Male N = 253* % (95% CI)	Female N = 232* % (95% CI)	Identified in another way N = 64* % (95% CI)
Any of the below**	88.3 (82.7–92.5)	85.5 (78.1–91.2)	84.8 (72.1–93.2)
Vapes	93.9 (89.4–96.8)	90.0 (82.7–95.0)	89.9 (74.9–97.5)
Cigarettes***	— —	21.3 (9.9–37.2)	— —
Cigars	28.0 (16.7–41.8)	— —	— —

Note. Little cigars or cigarillos, hookah, smokeless tobacco, heated tobacco products, and nicotine pouches, and respondents who declined to answer the gender identity question, were excluded from the table due to small sample sizes.

* N represents the number of respondents who fall into each of these categories among current users of one or more tobacco products.

** As the sample size for the subgroup for each product varies, estimates for each product may be greater than that of “any of the below.”

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

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

Table 16 displays the use of flavored tobacco products by race/ethnicity for products and race/ethnicity categories that had sufficient sample size to make these comparisons. Among those included in the table, White respondents reported the highest use of flavored tobacco (vapes, cigarettes, and/or LCCs; 87.0%), followed by Hispanic (85.7%) and multiracial (84.9%) respondents. For vapes, multiracial respondents reported higher use of flavored tobacco (96.9%) than White (92.8%) or Hispanic (89.4%) respondents.

Table 16. Prevalence of current flavored tobacco use among high school respondents who reported currently using each tobacco product, by race/ethnicity

Tobacco product	White	Hispanic	Multiracial
	<i>N</i> = 216* % (95% CI)	<i>N</i> = 281* % (95% CI)	<i>N</i> = 48* % (95% CI)
Any of the below**	87.0 (80.8–91.8)	85.7 (80.6–89.9)	84.9 (70.8–93.9)
Vapes	92.8 (87.6–96.3)	89.4 (83.6–93.6)	96.9 (83.5–99.9)
Cigarettes***	18.8 (10.3–30.3)	44.0† (29.2–59.7)	— —
LCCs	— —	59.1† (40.6–75.9)	— —

Note. LCCs = little cigars or cigarillos. Cigars, hookah, smokeless tobacco, heated tobacco products, and nicotine pouches, and respondents who identified as African American or Black, Asian, or other race, were excluded from the table due to small sample sizes.

* *N* represents the number of respondents who fall into each of these categories among current users of one or more of the tobacco products included in the table.

** As the sample size for the subgroup for each product varies, estimates for each product may be greater than that of “any of the below.”

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

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 17 shows results by grade. Due to small sample sizes, we restricted the table to vapes and cigarettes. Use of flavored tobacco (vapes or cigarettes) was higher among respondents in 12th grade (87.9%) than in 10th grade (83.9%). Use of flavored vapes was higher among respondents in 12th grade (94.2% vs. 87.8% in 10th grade).

Table 17. Prevalence of current flavored tobacco use among high school respondents who reported currently using each tobacco product, by grade

Tobacco product	10th grade N = 261* % (95% CI)	12th grade N = 358* % (95% CI)
Any of the below**	83.9 (79.1–88.7)	87.9 (83.3–92.6)
Vapes	87.8 (82.9–92.6)	94.2 (91.1–97.3)
Cigarettes***	36.9† (19.7–54.1)	29.0† (12.7–45.2)

Note. Cigars, little cigars or cigarillos, hookah, smokeless tobacco, heated tobacco products, and nicotine pouches were excluded from the table due to small sample sizes.

* N represents the number of respondents who fall into each of these categories among current users of one or more of the tobacco products included in the table.

** As the sample size for the subgroup for each product varies, estimates for each product may be greater than that of “any of the below.”

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

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Use of Specific Flavor Types

The 2022 CYTS asked respondents to indicate the flavor type they used most often. Possible flavor types included unflavored; tobacco flavored; menthol; mint; cooling, ice, or frosty; clove or spice; fruit; an alcoholic drink (such as wine, cognac, margarita, or other cocktails); a nonalcoholic drink (such as coffee, soda, energy drinks, or other beverages); candy, chocolate, desserts, or other sweets; and some other flavor. As shown in Table 18, flavor popularity varied by product. Fruit was the most popular flavor among current vape (49.7%) and hookah users (29.9%). Tobacco flavored was the most popular flavor reported among LCC (25.5%) and cigar (35.4%) users. About one-third (32.1%) of cigarette users reported smoking flavored (menthol) cigarettes.

Table 18. Prevalence of use of specific flavors among high school respondents who reported currently using each tobacco product

Tobacco product	N	Unflavored % (95% CI)	Tobacco flavored		Menthol % (95% CI)	Mint % (95% CI)	Cooling, ice, or frosty % (95% CI)	Clove or spice % (95% CI)	Fruit % (95% CI)	Alcoholic drink* % (95% CI)	Nonalcoholic drink** % (95% CI)	Candy, chocolate, desserts, or other sweets % (95% CI)	Some other flavor % (95% CI)
			% (95% CI)	% (95% CI)									
Vapes	529	6.2 (4.5–8.3)	2.1 (1.0–4.0)	3.7 (1.8–6.5)	8.5 (5.6–12.2)	8.1 (6.0–10.6)	0.3 (0.0–0.9)	49.7 (43.7–55.8)	1.1 (0.4–2.3)	1.8 (0.8–3.5)	9.9 (7.2–13.1)	8.6 (6.2–11.6)	
Cigarettes	124	67.9 (52.7–80.8)	0.0 —	32.1 (19.2–47.3)	0.0 —	0.0 —	0.0 —	0.0 —	0.0 —	0.0 —	0.0 —	0.0 —	0.0 —
LCCs	55	19.3 (9.3–33.4)	25.5 [†] (12.5–42.7)	2.5 [†] (0.1–12.4)	4.8 [†] (1.1–12.9)	4.3 [†] (0.4–16.1)	0.0 —	14.7 [†] (6.1–28.2)	1.9 [†] (0.0–11.0)	2.2 [†] (0.2–8.5)	10.0 [†] (2.1–26.3)	14.8 [†] (4.8–31.8)	
Cigars	53	27.6 (14.6–44.2)	35.4 (22.9–49.6)	5.0 [†] (0.5–18.0)	2.1 [†] (0.1–10.4)	5.9 [†] (0.8–18.9)	4.1 [†] (0.5–14.0)	6.4 [†] (1.1–19.2)	3.1 [†] (0.4–10.7)	1.6 [†] (0.0–9.1)	4.4 [†] (0.5–15.7)	4.4 [†] (0.5–15.3)	
Hookah	47	14.5 [†] (6.0–27.8)	— —	4.5 [†] (0.4–16.7)	10.0 [†] (2.2–26.1)	6.2 [†] (0.6–21.5)	2.7 [†] (0.0–15.2)	29.9 (18.0–44.2)	1.0 [†] (0.0–5.5)	2.8 [†] (0.0–16.0)	4.9 [†] (0.5–18.1)	14.8 [†] (4.8–31.8)	

Note. LCCs = little cigars or cigarillos. Unflavored and tobacco flavored are both considered not flavored product use. All other categories are considered flavored. The only flavors available for cigarettes are unflavored and menthol.

* Such as wine, cognac, margarita, or other cocktails.

** Such as coffee, soda, energy drinks, or other beverages.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Summary

The majority of high school respondents who were current tobacco users reported using flavored tobacco. This finding was consistent regardless of gender, race/ethnicity, or grade (for the categories we were able to examine). Out of all tobacco products, flavored product use was highest for vapes, with 91.7% of current vapers reporting using flavored vapes. Approximately one-third (32.1%) of cigarette smokers reported using menthol cigarettes in the last 30 days. The popularity of flavor types varied by product, with fruit flavors being the most popular among vapers.

CHAPTER 4 – Access to Vapes and Cigarettes

Age restrictions are intended to make it difficult for youth to access tobacco products. The minimum legal age to purchase tobacco products, including vapes, in California is 21 years old. As a result, it is important to monitor how underage youth acquire tobacco products, particularly through retail sources. The following chapter presents data on how respondents acquired vapes and cigarettes. Current vapers and cigarette smokers were asked how they usually get their vapes (or pods or e-liquid) or cigarettes, respectively. Respondents who reported buying their own vapes or cigarettes were then asked where they usually bought their vapes (or pods or e-liquid) or cigarettes.

Acquisition of Vapes

Table 19 presents how vapes were acquired among respondents who reported currently vaping. The most common method of obtaining vapes was buying their own (34.2%). Among these respondents, the most common method of buying vapes was from a vape shop (31.4%). Besides purchasing one's own vapes, other common methods of obtaining vapes were someone giving them to the respondent (21.3%) and asking someone else to buy them (20.0%). The least commonly reported method was taking them from someone (4.9%).

Table 19. Methods of accessing vapes among high school respondents who were current vapers, by grade

Method	Overall N = 535		10th grade N = 221		12th grade N = 314	
	% (95% CI)		% (95% CI)		% (95% CI)	
I ask someone to buy them for me	20.0	(16.1–24.5)	20.8	(15.4–27.0)	19.6	(14.9–25.0)
Someone gives them to me	21.3	(17.7–25.2)	28.0	(20.6–36.2)	17.0	(13.8–20.6)
I ask someone for them	12.0	(9.0–15.4)	11.2	(6.8–17.0)	12.4	(8.9–16.8)
I take them from someone	4.9	(3.4–6.9)	3.6	(1.7–6.5)	5.8	(3.4–9.2)
I get them some other way	7.6	(5.0–10.9)	8.7	(5.1–13.8)	6.9	(3.8–11.3)
I buy them myself*	34.2	(28.0–40.8)	27.8	(17.8–39.6)	38.3	(31.3–45.8)
From a gas station or convenience store	11.1 [†]	(2.8–27.3)	3.4 [†]	(0.2–13.8)	—	—
From a grocery store	0.5	(0.0–2.8)	1.6 [†]	(0.0–8.9)	—	—
From a drugstore or pharmacy	0	—	0	—	0	—
From a liquor store	5.2 [†]	(1.8–11.4)	1.6 [†]	(0.0–8.7)	6.8 [†]	(2.1–15.8)
From a tobacco or smoke shop	18.0	(11.5–26.1)	15.2 [†]	(5.1–32.0)	19.2	(12.1–28.2)
From a vape shop	31.4	(19.3–45.6)	—	—	30.5	(19.3–43.7)
From a mall or shopping center kiosk/ stand	0	—	0	—	0	—
On the Internet (including apps)	1.3	(0.3–3.5)	1.4 [†]	(0.0–6.9)	1.3	(0.1–4.7)
From someone	23.3	(14.8–33.6)	—	—	18.4	(9.8–30.1)
Some other way	9.3	(4.5–16.6)	9.8 [†]	(2.3–25.0)	9.1 [†]	(4.0–17.3)

* Numbers below this row represent the percentage of respondents endorsing each location among those who reported buying their own vapes.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

For 12th-graders, the most commonly reported method of getting vapes was buying vapes themselves (38.3%). For 10th-graders, the two most commonly reported methods of getting vapes was someone giving them vapes (28.0%) or buying vapes themselves (27.8%). Small sample sizes prevented us from comparing methods of acquiring vapes for 10th- and 12th-graders who reported buying their own vapes.

Acquisition of Cigarettes

Table 20 shows how cigarettes were acquired among respondents who were current cigarette smokers. The most common method of obtaining cigarettes was buying them (25.5%). Besides purchasing one’s own cigarettes, other common methods of obtaining them were being given them (22.5%) and taking them from someone (19.7%). The least common method was to ask someone for them (6.6%).

Table 20. Methods of accessing cigarettes among high school respondents who were current smokers, by grade

Method	Overall	10th grade	12th grade
	N = 125 % (95% CI)	N = 49 % (95% CI)	N = 76 % (95% CI)
I ask someone to buy them for me	15.0 (7.9–24.8)	9.9 [†] (3.2–21.8)	18.4 (9.9–30.1)
Someone gives them to me	22.5 (13.4–34.1)	20.7 [†] (9.1–37.3)	23.8 (14.0–36.1)
I ask someone for them	6.6 [†] (2.8–12.8)	7.3 [†] (2.1–17.4)	6.0 [†] (1.5–15.5)
I take them from someone	19.7 (12.3–29.1)	— —	19.2 (11.4–29.4)
I get them some other way	10.7 (5.8–17.8)	10.0 [†] (2.9–23.3)	11.2 [†] (5.2–20.3)
I buy them myself*	25.5 (16.2–36.8)	31.7 (18.7–47.2)	21.3 [†] (9.7–37.7)
From a gas station or convenience store	— —	— —	— —
From a grocery store	— —	— —	— —
From a drugstore or pharmacy	0 —	0 —	0 —
From a liquor store	— —	— —	— —
From a tobacco or smoke shop	4.2 [†] (0.3–17.0)	— —	1.4 [†] (0.1–6.6)
From a vape shop	0 —	0 —	0 —
From a mall or shopping center kiosk/ stand	0 —	0 —	0 —
On the Internet (including apps)	3.5 [†] (0.3–13.3)	— —	— —
From someone	— —	— —	— —
Some other way	— —	— —	1.2 [†] (0.1–5.3)

* Numbers below this row represent the percentage of respondents endorsing each location among those who reported buying their own cigarettes.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Differences existed across grades in methods of obtaining cigarettes. However, being given cigarettes was a common method of obtaining cigarettes among respondents in both grades (20.7% for 10th grade and 23.8% for 12th grade).

Perceived Accessibility of Vapes and Cigarettes

In addition to asking questions of current users about how they obtained their products, we asked all respondents, regardless of user status, how easy they thought it was to access these products from a store, the Internet (including apps), or someone else. Respondents who responded “somewhat easy” or “very easy” to these questions were coded as perceiving that it was easy to access these products. Respondents who responded “somewhat difficult” or “very difficult” were coded as not perceiving that it was easy to access these products.

Table 21 presents the percentage of high school respondents who perceived that it was easy to get vapes from a store, the Internet or someone else. Overall, about half of high school respondents or more thought it was easy to access vapes from these sources, with about half

(45.8%) reporting it was easy to get them from a store, and about two-thirds reporting it was easy to get them from the Internet (63.0%) or from someone else (67.3%). Current vapers more commonly reported that it was easy to obtain vapes than former or never vapers, with one exception. More former and never vapers reported that it was easy to obtain vapes from the Internet (67.1% and 62.6%) than current vapers (59.1%).

Table 21. Prevalence of perceiving that it was easy to access vapes from a store, the Internet, or someone else among high school respondents, by current vaping status

Source	Overall N = 8,903 % (95% CI)	Never vapers N = 7,271 % (95% CI)	Former vapers N = 1,097 % (95% CI)	Current vapers N = 535 % (95% CI)
From a store	45.8 (43.9–47.8)	43.7 (41.7–45.7)	52.3 (48.1–56.5)	63.4 (56.9–69.6)
From the Internet	63.0 (61.3–64.6)	62.6 (60.7–64.5)	67.1 (63.8–70.3)	59.1 (53.6–64.4)
From someone else	67.3 (65.3–69.4)	63.8 (61.6–66.0)	82.5 (79.7–85.0)	87.7 (84.1–90.8)

Table 22 presents the same outcomes for cigarettes. Overall, high school respondents reported that it was easier to access vapes than to access cigarettes. About a third thought it was easy to access cigarettes from a store (34.3%), and more than half thought it was easy to obtain them from the Internet (54.9%) or from someone else (57.9%). Current smokers more commonly perceived that it was easy to obtain cigarettes from a store or someone else than never or former smokers. As was the case with vapers, a higher percentage of former and never smokers reported that it was easy to obtain cigarettes from the Internet (52.3% and 55.9%) compared with current smokers (44.7%).

Table 22. Prevalence of perceiving that it was easy to access cigarettes from a store, the Internet, or someone else among high school respondents, by cigarette smoking status

Source	Overall N = 8,909 % (95% CI)	Never smokers N = 8,387 % (95% CI)	Former smokers N = 397 % (95% CI)	Current smokers N = 125 % (95% CI)
From a store	34.3 (32.7–35.9)	33.9 (32.2–35.6)	33.5 (29.6–37.6)	41.6 (35.8–47.7)
From the Internet	54.9 (53.0–56.8)	55.9 (53.8–58.0)	52.3 (48.5–56.0)	44.7 (38.7–50.8)
From someone else	57.9 (56.0–59.8)	55.2 (53.1–57.3)	69.6 (66.3–72.8)	73.0 (66.8–78.5)

Perceived Accessibility of Vapes and Cigarettes by Demographics

Tables 23 through 28 show the prevalence of perceiving that it was easy to access vapes and cigarettes from a store, the Internet, or someone else by demographics. Table 23 presents findings for perceived access to vapes from a store. For the overall sample, perceptions were similar across gender identity. African American or Black respondents had the highest perceived access to vapes from a store (57.0%) of all of the racial/ethnic categories. Twelfth-graders had higher perceived access to vapes from a store (48.5%) than 10th-graders (43.4%).

Table 23. Prevalence of perceiving that it was easy to access vapes from a store among high school respondents, by vaping status and demographics

Characteristic	N	Overall % (95% CI)	Never vapers % (95% CI)	Former vapers % (95% CI)	Current vapers % (95% CI)
Overall	8,670	45.8 (43.9–47.8)	43.7 (41.7–45.7)	52.3 (48.1–56.5)	63.4 (56.9–69.6)
Gender					
Male	3,917	46.0 (43.7–48.2)	44.1 (41.7–46.5)	50.1 (44.3–56.0)	67.6 (59.7–74.9)
Female	3,815	46.0 (43.2–48.8)	44.2 (41.4–47.0)	51.3 (44.0–58.6)	61.2 (50.6–71.2)
Identified in another way	526	46.9 (42.0–51.9)	43.7 (37.7–49.8)	62.1 (48.5–74.4)	53.5† (38.0–68.5)
Declined to answer	46	— —	— —	— —	— —
Race/ethnicity					
White	1,896	46.0 (41.9–50.2)	42.4 (38.2–46.6)	56.0 (47.3–64.5)	64.5 (53.7–74.4)
African American or Black	381	57.0 (49.8–63.9)	56.1 (48.0–63.9)	— —	— —
Hispanic	4,863	44.5 (42.4–46.6)	43.1 (40.9–45.3)	47.7 (42.5–53.0)	60.6 (52.5–68.4)
Asian	696	46.0 (41.3–50.8)	44.4 (39.9–49.1)	56.8 (44.6–68.4)	— —
Other	225	47.5 (37.1–58.0)	43.9 (32.5–55.8)	— —	— —
Multiracial	602	48.6 (42.0–55.3)	45.1 (36.9–53.4)	61.3 (46.6–74.7)	— —
Grade					
10	4,849	43.4 (41.2–45.6)	41.8 (39.6–44.1)	49.7 (44.2–55.2)	60.0 (50.8–68.7)
12	3,821	48.5 (45.7–51.3)	45.9 (42.8–48.9)	54.6 (49.0–60.1)	65.6 (57.5–73.1)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

In terms of differences by vaping status, generally, current vapers most commonly reported that it was easy to access vapes. In terms of differences by gender identity and current vaping status, current vapers had the highest perceived access to vapes, with one exception. Among respondents who identified their gender in another way, former vapers had the highest perceived access to vapes.

Table 24 presents findings for perceived access to vapes from the Internet. For the overall sample, responses were similar across gender identity categories. For race/ethnicity, African American or Black respondents had the highest perceived access to vapes from the Internet (70.3%). Perceived access was similar across grades overall and never vapers, but 10th-grade former and current vapers had higher perceived access than their 12th-grade counterparts.

Table 24. Prevalence of perceiving that it was easy to access vapes from the Internet among high school respondents, by vaping status and demographics

Characteristic	<i>N</i>	Overall % (95% CI)	Never vapers % (95% CI)	Former vapers % (95% CI)	Current vapers % (95% CI)
Overall	8,626	63.0 (61.3–64.6)	62.6 (60.7–64.5)	67.1 (63.8–70.3)	59.1 (53.6–64.4)
Gender					
Male	3,905	62.6 (60.3–64.8)	62.6 (60.1–65.1)	64.3 (58.8–69.6)	57.8 (51.4–64.1)
Female	3,802	63.6 (61.2–65.9)	62.8 (60.2–65.4)	70.9 (66.5–75.0)	57.2 (45.8–68.0)
Identified in another way	523	65.7 (56.8–73.9)	65.3 (57.0–72.9)	— —	75.0 (60.3–86.5)
Declined to answer	46	— —	— —	— —	— —
Race/ethnicity					
White	1,891	61.0 (57.4–64.6)	60.9 (56.7–65.0)	63.8 (55.4–71.6)	58.7 (51.9–65.2)
African American or Black	379	70.3 (61.5–78.1)	69.4 (58.6–78.8)	83.4 (65.3–94.4)	— —
Hispanic	4,835	62.5 (60.6–64.4)	62.4 (60.3–64.5)	65.7 (61.7–69.5)	54.9 (45.3–64.3)
Asian	690	65.6 (61.9–69.2)	65.3 (61.3–69.1)	71.2 (55.4–83.9)	— —
Other	224	60.1 (51.0–68.8)	57.7 (46.8–68.0)	— —	— —
Multiracial	600	64.6 (57.0–71.6)	62.2 (53.7–70.1)	72.1 (57.6–83.9)	— —
Grade					
10	4,827	63.8 (61.8–65.7)	62.9 (60.7–65.1)	71.1 (66.5–75.3)	62.7 (52.5–72.2)
12	3,799	62.1 (59.3–64.8)	62.3 (59.2–65.3)	63.7 (58.3–68.9)	56.8 (50.3–63.1)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

Table 25 presents findings for perceived access to vapes from someone else. For the overall sample, females had the highest perceived ease of access (71.7%) compared with other gender categories. African American or Black respondents had the highest perceived ease of access (72.5%) out of all racial/ethnic categories. Twelfth-graders reported higher perceived ease of access (70.1%) than 10th-graders (64.8%).

Table 25. Prevalence of perceiving that it was easy to access vapes from someone else among high school respondents, by vaping status and demographics

Characteristic	N	Overall % (95% CI)	Never vapers % (95% CI)	Former vapers % (95% CI)	Current vapers % (95% CI)
Overall	8,620	67.3 (65.3–69.4)	63.8 (61.6–66.0)	82.5 (79.7–85.0)	87.7 (84.1–90.8)
Gender					
Male	3,909	64.6 (62.3–66.8)	61.3 (59.0–63.6)	79.4 (74.4–83.8)	86.8 (80.6–91.6)
Female	3,810	71.7 (69.0–74.3)	68.2 (65.1–71.1)	86.6 (83.2–89.5)	89.5 (82.5–94.4)
Identified in another way	525	65.4 (60.2–70.4)	61.5 (55.1–67.6)	79.2 (66.7–88.6)	81.7 (65.4–92.5)
Declined to answer	42	— —	— —	— —	— —
Race/ethnicity					
White	1,889	68.1 (63.1–72.9)	63.0 (57.3–68.4)	84.7 (77.7–90.2)	91.6 (86.3–95.4)
African American or Black	377	72.5 (62.7–80.9)	71.1 (59.3–81.0)	— —	— —
Hispanic	4,829	67.1 (65.0–69.1)	64.1 (61.9–66.3)	80.0 (75.8–83.8)	84.4 (77.8–89.6)
Asian	691	66.9 (62.1–71.4)	64.4 (58.9–69.7)	85.8 (74.0–93.7)	— —
Other	227	64.9 (55.0–73.8)	61.1 (49.9–71.4)	— —	— —
Multiracial	600	67.5 (58.1–75.9)	62.2 (51.1–72.4)	93.1 (84.8–97.7)	— —
Grade					
10	4,819	64.8 (62.5–67.2)	61.8 (59.3–64.2)	80.6 (76.9–83.9)	88.2 (83.5–92.0)
12	3,801	70.1 (67.4–72.7)	66.2 (63.2–69.0)	84.1 (80.1–87.6)	87.4 (81.8–91.8)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

In terms of differences by vaping status within demographic categories, current vapers generally reported higher perceived ease of access to vapes out of all categories of current vaping status. Respondents in 12th grade generally reported greater perceived ease of access than respondents in 10th grade, except for current vapers, for whom perceived access was about the same.

Table 26 presents findings for perceived access to cigarettes from a store. For the overall sample, respondents who identified their gender in some other way reported greater perceived ease of access (37.6%) than respondents who identified as male (34.7%) or female (33.4%). African American or Black respondents reported the highest perceived ease of access (45.7%) out of all racial/ethnic groups. Twelfth-graders reported higher perceived ease of access (37.0%) than 10th-graders (31.8%).

Table 26. Prevalence of perceiving that it was easy to access cigarettes from a store among high school students, by cigarette smoking status and demographics

Characteristic	N	Overall % (95% CI)	Never smokers % (95% CI)	Former smokers % (95% CI)	Current smokers % (95% CI)
Overall	8,670	34.3 (32.7–35.9)	33.9 (32.2–35.6)	33.5 (29.6–37.6)	41.6 (35.8–47.7)
Gender					
Male	3,919	34.7 (32.6–36.8)	34.4 (32.1–36.7)	30.9 (25.8–36.4)	47.4 (38.2–56.7)
Female	3,814	33.4 (31.3–35.5)	33.2 (31.0–35.5)	34.7 (28.6–41.2)	32.7 (25.5–40.6)
Identified in another way	525	37.6 (31.5–44.0)	36.3 (29.4–43.6)	40.2 (27.5–53.9)	46.8 [†] (31.0–63.1)
Declined to answer	46	— —	— —	— —	— —
Race/ethnicity					
White	1,897	33.5 (30.2–36.9)	31.1 (27.7–34.6)	39.3 (31.9–47.1)	46.8 (38.0–55.7)
African American or Black	382	45.7 (39.8–51.7)	45.3 (38.0–52.7)	— —	— —
Hispanic	4,862	32.6 (30.9–34.3)	32.8 (30.8–34.9)	28.9 (24.7–33.3)	38.5 (31.2–46.2)
Asian	695	39.7 (36.0–43.5)	40.0 (36.3–43.8)	37.6 (27.7–48.3)	35.5 [†] (18.9–55.1)
Other	225	39.5 (31.4–47.9)	40.6 (31.8–49.9)	— —	— —
Multiracial	602	33.2 (27.4–39.5)	32.4 (25.5–39.9)	33.9 (22.1–47.4)	— —
Grade					
10	4,848	31.8 (30.0–33.6)	31.5 (29.7–33.3)	32.0 (27.0–37.3)	36.9 (29.4–44.9)
12	3,822	37.0 (34.8–39.2)	36.7 (34.4–39.0)	34.8 (29.7–40.1)	44.6 (36.8–52.7)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

In terms of differences in perceived access within demographic categories by cigarette smoking status, current smokers generally reported greater perceived ease of access to cigarettes from a store, compared with former and never smokers. However, among Asian respondents, never smokers reported higher perceived ease of access (40.0%) than current smokers (35.5%).

Table 27 presents findings for perceived access to cigarettes from the Internet. In the overall sample, respondents who identified their gender in another way (59.1%) reported higher perceived ease of access than males (55.6%) or females (54.2%). Ease of access was most commonly endorsed among African American or Black (62.1%) and Asian (60.1%) respondents out of all races/ethnicities. Perceived ease of access was similar across grades but higher among 10th-graders (55.7%) than 12th-graders (53.9%).

Table 27. Prevalence of perceiving that it was easy to access cigarettes from the Internet among high school students, by cigarette smoking status and demographics

Characteristic	N	Overall % (95% CI)	Never smokers % (95% CI)	Former smokers % (95% CI)	Current smokers % (95% CI)
Overall	8,628	54.9 (53.0–56.8)	55.9 (53.8–58.0)	52.3 (48.5–56.0)	44.7 (38.7–50.8)
Gender					
Male	3,907	55.6 (53.1–58.2)	57.1 (54.3–59.8)	52.0 (46.0–57.9)	39.8 (33.7–46.2)
Female	3,803	54.2 (51.7–56.7)	55.0 (52.1–57.8)	53.5 (48.2–58.7)	43.4 (32.8–54.4)
Identified in another way	523	59.1 (50.9–66.9)	59.5 (51.6–67.1)	— —	66.5 [†] (49.6–80.7)
Declined to answer	46	— —	— —	— —	— —
Race/ethnicity					
White	1,894	53.0 (49.3–56.8)	54.6 (50.4–58.7)	51.0 (43.3–58.6)	42.2 (31.2–53.7)
African American or Black	379	62.1 (51.8–71.7)	62.2 (49.3–73.9)	69.5 (54.3–82.1)	— —
Hispanic	4,832	53.7 (51.6–55.8)	54.7 (52.3–57.0)	51.2 (46.7–55.7)	42.9 (34.0–52.2)
Asian	692	60.1 (55.2–64.9)	61.2 (55.8–66.5)	54.6 (42.5–66.4)	— —
Other	225	51.7 (42.4–60.8)	50.3 (38.8–61.8)	— —	— —
Multiracial	599	57.0 (49.9–63.9)	57.4 (49.2–65.3)	50.0 (36.9–63.1)	— —
Grade					
10	4,826	55.7 (53.3–58.1)	56.1 (53.6–58.5)	56.2 (50.3–62.0)	46.2 (36.1–56.5)
12	3,802	53.9 (51.3–56.6)	55.7 (52.7–58.7)	48.9 (43.6–54.3)	43.8 (37.6–50.2)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

In terms of differences by smoking status within demographic categories, current smokers reported the lowest perceived ease of access to cigarettes from the Internet. We could not examine this pattern for all demographic categories because of small sample sizes, but we did find one exception to the observed pattern by smoking status. Among respondents who identified their gender in another way, current smokers reported higher perceived ease of access (66.5%) than never smokers (59.5%).

Table 28 presents findings for perceived access to cigarettes from someone else. In terms of the overall sample, respondents who declined to answer the gender question reported the lowest perceived access to cigarettes from someone else (38.5%), compared with other gender categories. African American or Black respondents reported the highest perceived ease of access from someone else (67.3%) compared with other race/ethnicity categories. Perceived access to cigarettes was higher among 12th-graders (60.9%) than 10th-graders (55.2%).

Table 28. Prevalence of perceiving that it was easy to access cigarettes from someone else among high school students, by cigarette smoking status and demographics

Characteristic	N	Overall % (95% CI)	Never smokers % (95% CI)	Former smokers % (95% CI)	Current smokers % (95% CI)
Overall	8,618	57.9 (56.0–59.8)	55.2 (53.1–57.3)	69.6 (66.3–72.8)	73.0 (66.8–78.5)
Gender					
Male	3,909	56.3 (54.2–58.4)	53.7 (51.4–55.9)	69.9 (65.1–74.4)	70.9 (63.7–77.4)
Female	3,810	60.7 (58.0–63.5)	58.5 (55.4–61.5)	71.0 (66.0–75.8)	70.7 (58.1–81.3)
Identified in another way	523	57.1 (51.0–63.0)	52.9 (46.4–59.4)	68.7 (53.0–81.7)	80.2 (64.0–91.4)
Declined to answer	42	38.5 [†] (22.6–56.4)	31.8 [†] (16.0–51.4)	—	—
Race/ethnicity					
White	1,888	57.4 (52.2–62.6)	52.1 (46.5–57.7)	72.2 (64.8–78.8)	84.8 (76.7–91.0)
African American or Black	377	67.3 (57.4–76.1)	66.4 (54.4–77.0)	—	—
Hispanic	4,826	57.5 (55.6–59.4)	55.6 (53.4–57.9)	66.8 (61.9–71.3)	64.5 (55.1–73.1)
Asian	692	59.2 (53.8–64.4)	58.2 (52.2–64.0)	71.4 (58.7–82.0)	—
Other	227	59.3 (47.8–70.1)	55.2 (42.1–67.7)	—	—
Multiracial	601	57.0 (48.1–65.7)	53.0 (43.2–62.7)	76.8 (63.1–87.3)	—
Grade					
10	4,816	55.2 (53.1–57.3)	53.1 (50.9–55.3)	67.5 (62.4–72.3)	67.7 (56.1–77.9)
12	3,802	60.9 (58.0–63.8)	57.7 (54.5–60.8)	71.5 (66.9–75.8)	76.3 (69.3–82.4)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

In terms of patterns by smoking status within demographic categories, generally, current smokers reported the highest perceived ease of access. We found one exception to this pattern. Among Hispanic respondents, former smokers reported greater perceived ease of access (66.8%) than current smokers (64.5%).

Summary

The most common method of obtaining vapes among current vapers in high school was buying their own. Among those who bought their own vapes, the most common method of accessing them was from a vape shop. Perceived access to vapes was higher than perceived access to cigarettes. The most common method of obtaining cigarettes was buying them. Among all respondents, vapes were perceived as easier to obtain from someone else, the Internet, or a store than cigarettes. Differences in perceived access to vapes and cigarettes were observed by current use status, gender, race/ethnicity, and grade. African American or Black respondents reported higher perceived ease of access to both vapes and cigarettes than respondents in other racial/ethnic groups.

CHAPTER 5 – Susceptibility to Future Tobacco Use

In the 2022 CYTS, susceptibility was measured in two different ways. For the most popular products (vapes, cigarettes, and LCCs), we used a three-item susceptibility scale. These questions were only asked of never users for each product. The scale asked three questions: whether they would use a product if one of their best friends offered the product to them, whether they thought they would try the product soon, and whether they thought they would use the product in the next year. Only those who answered “definitely not” to all three items are considered not susceptible to future tobacco use. All others are considered susceptible. For the other tobacco products captured by the survey (HTPs, hookah, smokeless, and nicotine pouches), we only asked one question: whether respondents would use the product if one of their best friends offered the product to them. Because of low use of cigars among youth, we did not administer a susceptibility item for cigars. Because the three-item susceptibility scale is superior to the single-item scale, we only present susceptibility for vapes, cigarettes, and LCCs in this chapter.

Susceptibility to Vapes, Cigarettes, and LCCs by Demographics

Table 29 presents susceptibility of never users to vapes, cigarettes, and LCCs by respondent demographics. Overall, 44.7% of respondents were susceptible to any tobacco product, and 40.7% were susceptible to vapes specifically. Susceptibility to cigarettes (16.9%) and LCCs (20.4%) was lower.

Table 29. Proportion of high school never vapers, never smokers, and/or never LCC users susceptible to future use of these products, by gender, race/ethnicity, and grade

Characteristic	Any of these products		N	Vapes		N	Cigarettes		N	LCCs	
	N	% (95% CI)		% (95% CI)	% (95% CI)		% (95% CI)	% (95% CI)			
Susceptible (total)	8,793	44.7 (42.6–46.9)	7,267	40.7 (38.2–43.1)	8,380	16.9 (15.9–18.0)	8,695	20.4 (18.7–22.2)			
Gender											
Male	3,890	43.2 (41.0–45.6)	3,287	37.8 (35.0–40.7)	3,722	16.3 (15.1–17.5)	3,843	23.1 (20.6–25.7)			
Female	3,818	45.0 (41.8–48.2)	3,110	42.5 (39.2–45.9)	3,642	16.1 (14.3–18.0)	3,786	16.7 (14.8–18.8)			
Identified in another way	517	52.7 (47.0–58.4)	419	49.9 (42.1–57.6)	471	25.1 (21.1–29.4)	505	26.1 (21.0–31.7)			
Declined to answer	52	— —	44	— —	50	24.4 (11.8–41.5)	51	23.3 (11.3–39.5)			
Race/ethnicity											
White	1,889	42.8 (37.4–48.4)	1,511	35.2 (30.5–40.2)	1,731	17.4 (14.4–20.8)	1,875	22.8 (18.7–27.4)			
African American or Black	391	38.3 (31.2–45.8)	319	37.1 (30.1–44.6)	383	7.8 (4.5–12.5)	384	16.0 (8.9–25.8)			
Hispanic	4,965	47.7 (45.9–49.4)	4,109	45.2 (43.3–47.1)	4,781	17.7 (16.4–18.9)	4,899	20.2 (18.5–22.0)			
Asian	700	36.7 (33.2–40.2)	619	33.4 (29.9–37.0)	677	13.9 (11.2–16.9)	700	16.3 (13.0–20.2)			
Other	227	40.2 (32.1–48.7)	191	36.6 (28.1–45.7)	221	13.5 (8.0–20.8)	223	14.8 (9.4–21.7)			
Multiracial	610	47.4 (41.7–53.1)	508	40.5 (31.3–50.2)	577	21.5 (15.7–28.3)	603	24.6 (18.5–31.6)			
Grade											
10	4,956	43.9 (41.5–46.4)	4,242	40.1 (37.3–42.9)	4,789	17.2 (15.8–18.5)	4,904	18.4 (16.7–20.1)			
12	3,837	45.6 (43.0–48.3)	3,025	41.3 (38.2–44.5)	3,591	16.6 (15.2–18.1)	3,791	22.6 (19.8–25.7)			

Note. LCCs = little cigars or cigarillos.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

We found differences in susceptibility by demographics. Respondents who identified their gender in another way were more susceptible to use of any of the tobacco products in the table (52.7%) than those who identified as female (45.0%) or male (43.2%). Multiracial and Hispanic respondents were the most susceptible (47.4% and 47.7%, respectively) out of all racial/ethnic groups. Twelfth-grade respondents reported higher susceptibility (45.6%) compared with 10th-grade respondents (43.9%).

When looking at vapes, cigarettes, and LLCs specifically, patterns of susceptibility by gender identity and grade are similar to those found for use of any of these products, with a few exceptions. Although respondents who identified their gender in a different way had the highest susceptibility across all products, females had higher susceptibility to vapes than males (42.5% vs. 37.8%), and males had higher susceptibility to LLCs than females (23.1% vs. 16.7%). Hispanic and multiracial respondents had the highest susceptibility to vapes and cigarettes out of all racial/ethnic groups. Multiracial (24.6%) and White (22.8%) respondents had the highest susceptibility to LLCs. Respondents in 12th grade had higher susceptibility to vapes (41.3% vs. 40.1%) and LLCs (22.6% vs. 18.4%) than 10th-grade respondents, but 10th-graders had higher susceptibility to cigarettes (17.2%) than 12th-graders (16.6%).

Susceptibility to Vapes, Cigarettes, and LLCs by General Mental Health

Table 30 presents the proportion of never users who were susceptible to vaping, smoking cigarettes, or LLCs according to their self-rated general mental health. Susceptibility to use of any of these products was highest among never users who rated their mental health as poor (54.8%) or fair (54.5%). It was the lowest among those who reported good to excellent mental health (39.1%). The results broken down by individual product were consistent with the overall findings.

Table 30. Proportion of high school never vapers, never smokers, and/or never LLC users susceptible to using these products, by general mental health

Mental health	Susceptible to any of these products <i>N</i> = 8,793 % (95% CI)	Susceptible to vapes <i>N</i> = 7,267 % (95% CI)	Susceptible to cigarettes <i>N</i> = 8,380 % (95% CI)	Susceptible to LLCs <i>N</i> = 8,695 % (95% CI)
Overall	44.7 (42.6–46.9)	40.7 (38.2–43.1)	16.9 (15.9–18.0)	20.4 (18.7–22.2)
Good to excellent	39.1 (36.6–41.6)	35.2 (32.6–37.9)	13.6 (12.4–14.8)	16.6 (15.1–18.3)
Fair	54.5 (50.6–58.4)	52.5 (48.3–56.8)	21.1 (18.6–23.8)	26.5 (21.8–31.6)
Poor	54.8 (50.4–59.2)	49.3 (44.4–54.3)	26.3 (22.6–30.2)	27.9 (23.8–32.2)

Note. LLCs = little cigars or cigarillos.

Susceptibility to Vape and Cigarette Use by Peer Vaping and Smoking

One factor that affects youth susceptibility is peer tobacco use. The survey asked respondents to indicate the proportion of their friends who used vapes or smoked cigarettes. It should be noted that this question 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 friends who used vapes with marijuana.

Overall, peer use and individual susceptibility appeared to be positively correlated. Table 31 presents the susceptibility to future vape or cigarette use (among never users), by the self-reported proportion of their friends who used the tobacco product. Susceptibility to vaping among respondents increased as the proportion of their friends who vaped increased. Never cigarette smokers who reported having some (31.4%) or most/all (32.8%) friends who smoked had higher susceptibility to cigarettes than those who did not have friends who smoked cigarettes (14.9%).

Table 31. Prevalence of susceptibility to vaping and smoking among high school never users of each product, by product and by friend vaping and smoking status

Friend use	Respondent user status			
	<i>N</i>	Never users of vapes % (95% CI)	<i>N</i>	Never smokers of cigarettes % (95% CI)
Friends who vape				
None	1,284	31.6 (28.4–34.9)	538	13.1 (11.9–14.3)
Some	1,375	52.2 (49.2–55.0)	647	19.3 (17.5–21.2)
Most/all	295	60.6 (55.7–65.4)	229	29.4 (24.7–34.5)
Friends who smoke cigarettes				
None	2,510	39.3 (36.8–41.9)	1,072	14.9 (13.8–16.1)
Some	373	51.9 (47.4–56.3)	285	31.4 (28.4–34.5)
Most/all	68	52.5 (43.6–61.3)	55	32.8 (24.9–41.5)

Summary

Overall, 44.7% of respondents who had never used a tobacco product were susceptible to using at least one tobacco product in the future. Susceptibility to different tobacco products varied across demographic dimensions; in general, never users were most susceptible to vapes. Susceptibility varied by gender identity and race/ethnicity. Although these patterns differed by tobacco product, for any of these products in general, respondents who identified their gender in another way or were multiracial or Hispanic had higher levels of susceptibility. Respondents whose peers used a particular product had higher susceptibility to that product.

CHAPTER 6 – Perceptions of Vaping and Smoking

Social norms affect tobacco use behavior. This chapter presents data on reported reasons for vaping among current vapers. It also presents data on respondents' beliefs about how adults, peers or classmates, and friends perceive vaping and smoking cigarettes. Finally, respondents' opinions of the tobacco industry are reported. These perceptions are compared across tobacco use status (i.e., never, former, or current users) or demographics, when appropriate.

Reasons for Vaping

Respondents who vaped in the last 30 days were asked why they vaped. Table 32 shows the percentage of respondents who endorsed each reason. The most commonly endorsed response was “to relax or relieve stress and anxiety” (35.4%). Other commonly reported reasons for vaping included, “to have a good time with my friends” (15.7%), “for the nicotine buzz” (13.3%), and “to fit in/peer pressure” (11.8%).

Table 32. Reported reasons for vaping among high school respondents who currently vape

The most important reason I use vapes is	Overall N = 535 % (95% CI)
To fit in/peer pressure	11.8 (9.6–14.2)
Cloud competitions	3.4 (2.3–4.8)
To relax or relieve stress and anxiety	35.4 (31.7–39.2)
For the nicotine buzz	13.3 (10.8–16.1)
To focus or concentrate	2.7 (2.0–3.7)
It looks cool	7.8 (6.2–9.7)
To have a good time with my friends	15.7 (13.3–18.4)
Because I am “hooked”	2.4 (1.7–3.3)
To try to quit using other products	0.8 (0.4–1.4)
They are available in flavors I like	3.0 (2.2–4.0)
I can use them unnoticed or hide them at home or at school	1.5 (0.9–2.4)
To control my weight	2.2 (1.5–3.0)

Adult Disapproval of Vaping and Smoking

Respondents were asked how adults who were important to them (such as parents, teachers, coaches, or relatives) would feel about the respondent using vapes. The same questions were asked about smoking cigarettes, using marijuana, and drinking alcohol.

Table 33 presents the percentage of respondents who reported that adults important to them would feel negatively (“negative” and “very negative” as opposed to “positive” or “very positive”) about the respondent vaping. Most respondents (96.2%) believed that adults important to them would feel negatively about the respondent vaping. Across all demographic categories, the majority of respondents held this belief.

Table 33. Percentage of high school respondents who believed that adults would feel negatively about them vaping, by demographics

Characteristic	<i>N</i>	Overall <i>N</i> = 8,590 % (95% CI)
Overall	8,590	96.2 (95.5–96.9)
Gender		
Male	3,927	96.5 (95.7–97.2)
Female	3,821	97.0 (96.1–97.8)
Identified in another way	527	89.4 (85.8–92.3)
Declined to answer	37	97.7 (90.3–99.9)
Race/ethnicity		
White	1,880	96.1 (94.4–97.4)
African American or Black	378	92.7 (87.0–96.5)
Hispanic	4,812	96.5 (95.6–97.2)
Asian	689	96.9 (95.1–98.2)
Other	226	92.4 (86.4–96.3)
Multiracial	598	97.4 (95.0–98.9)
Grade		
10	4,809	96.2 (95.2–97.0)
12	3,781	96.3 (95.3–97.1)

Table 34 presents the percentage of respondents who reported that adults important to them would feel negatively about the respondent smoking cigarettes. Almost all respondents (97.1%) believed that adults important to them would feel negatively about the respondent smoking cigarettes. This opinion was consistent across demographic categories.

Table 34. Percentage of high school respondents who believed that adults would feel negatively about them smoking cigarettes, by demographics

Characteristic	N	Overall N = 8,588 % (95% CI)
Overall	8,588	97.1 (96.6–97.5)
Gender		
Male	3,927	97.0 (96.3–97.7)
Female	3,820	98.0 (97.6–98.4)
Identified in another way	526	91.4 (88.2–93.9)
Declined to answer	37	100.0 —
Race/ethnicity		
White	1,880	97.1 (96.0–98.0)
African American or Black	378	93.5 (87.7–97.1)
Hispanic	4,811	97.2 (96.7–97.7)
Asian	689	97.1 (95.6–98.2)
Other	226	94.9 (90.8–97.6)
Multiracial	597	98.4 (96.5–99.4)
Grade		
10	4,806	96.9 (96.2–97.6)
12	3,782	97.2 (96.5–97.8)

Peer Disapproval of Vaping and Smoking

In addition to being asked about adults, respondents were asked to describe views of “other respondents at your school” on using vapes. Response options included “very positive,” “positive,” “negative,” and “very negative.” The same questions were asked about smoking cigarettes.

Table 35 presents the percentage of respondents who believed that other respondents at their school would view vaping and smoking cigarettes negatively (“negative” and “very negative”). Overall, a greater proportion of respondents believed other respondents would view smoking more negatively (86.0%) than vaping (52.9%). The percentage of respondents endorsing these views for vaping varied by vaping status.

Table 35. Percentage of high school respondents who believed that close friends and other respondents at school would view vaping and smoking negatively, by vaping and smoking use

Use status	Negative views about vaping		Use status	Negative views about smoking	
	N	% (95% CI)		N	% (95% CI)
Overall	8,577	52.9 (49.7–56.0)	Overall	8,587	86 (84.6–87.4)
Never vaper	7,009	55.5 (52.3–58.6)	Never smoker	8,084	86.3 (84.9–87.6)
Former vaper	1,062	42 (37.4–46.6)	Former smoker	384	86.1 (80.0–90.9)
Current vaper	506	37.5 (32.1–43.1)	Current smoker	119	66.1 (53.5–77.3)

Most respondents (86.0%) thought other respondents at their school viewed smoking cigarettes negatively. Never users and former cigarette smokers more commonly endorsed these negative beliefs (86.3% and 86.1% respectively) than current smokers (66.1%).

Table 36 presents the perceived prevalence of peers’ negative views of vaping and smoking by demographics. Respondents who identified as male had a higher perceived prevalence of negative views of vaping (60.1%) and smoking cigarettes (88.5%) than respondents who identified as female (45.2% and 84.4% respectively) or identified in another way (47.9% and 80.2% respectively). Across different races/ethnicities, Asian respondents most commonly reported that their peers viewed vaping negatively (60.5%) and Asian and White respondents most commonly reported that their peers viewed smoking cigarettes negatively (88.5% and 88.4% respectively). It was more common for 10th-grade respondents to believe that peers viewed vaping negatively (54.0% vs. 51.6% for 12th-graders), whereas it was more common for 12th-grade respondents to believe that peers viewed smoking cigarettes negatively (87.8% vs. 84.4% for 10th-graders).

Table 36. Percentage of high school respondents who believed that close friends or other respondents at school would view vaping and smoking negatively, by demographics

Characteristic	N	Vaping	N	Smoking cigarettes
		% (95% CI)		% (95% CI)
Overall	8,581	52.9 (49.7–56.0)	8,587	86.0 (84.6–87.4)
Gender				
Male	3,916	60.1 (55.9–64.2)	3,916	88.5 (86.8–90.1)
Female	3,802	45.2 (42.0–48.5)	3,805	84.4 (82.4–86.3)
Identified in another way	524	47.9 (42.4–53.4)	525	80.2 (76.3–83.7)
Declined to answer	39	— —	41	— —
Race/ethnicity				
White	1,881	53.2 (49.2–57.2)	1,882	88.4 (85.9–90.6)
African American or Black	380	44.0 (36.1–52.2)	380	81.2 (71.6–88.7)
Hispanic	4,797	51.5 (48.6–54.4)	4,804	84.6 (83.3–85.8)
Asian	691	60.5 (51.9–68.7)	690	88.5 (85.4–91.2)
Other	224	54.7 (47.0–62.3)	224	86.2 (77.7–92.4)
Multiracial	600	53.0 (45.1–60.8)	599	87.7 (83.9–90.9)
Grade				
10	4,798	54.0 (50.2–57.8)	4,800	84.4 (82.6–86.2)
12	3,783	51.6 (47.6–55.6)	3,787	87.8 (86.2–89.3)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

Summary

Among high school respondents who were currently vaping, the most commonly endorsed reason for vaping was “to relax or relieve stress and anxiety.” Respondents believed that adults who were important to them held overwhelmingly negative views on vaping and smoking cigarettes. When asked about beliefs of their peers, respondents perceived that their peers viewed smoking cigarettes more negatively than vaping. Differences were observed in beliefs about adults’ and peers’ views of vaping and smoking by vaping and smoking status, gender identity, race/ethnicity, and grade.

CHAPTER 7 – Secondhand Exposure and Other Environmental Influences

This chapter focuses on environmental influences for tobacco use. It presents self-reported respondent exposure to secondhand vapor and tobacco smoke and information on home bans for vaping and tobacco smoke. It also presents information on exposure to vaping and smoking in the media. The prevalence of exposure to environmental influences is compared across tobacco use status when appropriate. It should be noted that questions about vapes reported in this chapter asked about vapes generally and did not specify the substance in the vape (e.g., nicotine, marijuana). As a result, responses could include exposure to vapes with marijuana.

Exposure to Secondhand Vapor and Tobacco Smoke in Car or Room and Outside

The 2022 CYTS asked respondents about exposure to vapor and tobacco smoke both inside and outside. To assess indoor exposure, the survey asked, “In the last 2 weeks, were you in a car or room when someone was using a vape?” A similar question asked about secondhand exposure to tobacco smoke in a car or room by replacing the phrase “using a vape” with the phrase “smoking a cigarette, little cigar, or cigarillo.”

Table 37 reports high school respondents’ exposure to secondhand vapor and tobacco smoke in a car or room. Overall, secondhand exposure in a car or room within the last 2 weeks was higher for vaping (22.8%) than for tobacco smoke (10.5%). Current vapers reported higher rates of exposure to vaping than never and former vapers; the same was true for tobacco smoke exposure among tobacco smokers. In addition, exposure to tobacco smoke was higher among current and former vapers than never vapers, and exposure to vapor was higher among current and former cigarette smokers than never smokers. In other words, both vapers and smokers experienced higher levels of both vapor and smoke exposure indoors.

Table 37. Prevalence of last-2-week exposure to vapor and tobacco smoke in car or room among high school respondents, by tobacco smoking status

Use status	Vapor exposure		Tobacco smoke* exposure	
	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)
Overall	2,111	22.8 (20.3–25.5)	968	10.5 (9.3–11.9)
Vaping status				
Never users	1,265	16.6 (14.9–18.5)	639	8.6 (7.4–9.8)
Former users	438	40.5 (36.0–45.2)	171	15.9 (13.5–18.5)
Current users	408	77.2 (70.7–82.8)	158	28.1 (22.9–33.8)
Tobacco smoking status*				
Never users	1,760	20.6 (18.4–22.9)	765	9.1 (7.9–10.3)
Former users	231	50.7 (44.1–57.3)	115	24.7 (19.8–30.0)
Current users	122	77.4 (66.4–86.2)	89	56.3 (44.9–67.2)

*Includes cigarettes, little cigars or cigarillos, or both.

Table 38 show respondents' exposure to secondhand vapor and tobacco smoke outside. Respondents were considered exposed outside if they reported having been near someone who was using a vape or smoking tobacco outside of a restaurant, outside of a store, or at a park, playground, or beach in the last 2 weeks. Overall, exposure to tobacco smoke outdoors (46.3%) was higher than exposure to vapor outside (34.3%). Current vapers reported higher rates of exposure to vapor outside than never and former vapers; the same was true for exposure to tobacco smoke among tobacco smokers. In addition, current vapers reported greater exposure to tobacco smoke outdoors, and current smokers reported higher exposure to vapor outdoors.

Table 38. Prevalence of last-2-week exposure to vapor and tobacco smoke outside among high school respondents, by tobacco smoking status

Use status	Vapor exposure		Tobacco smoke* exposure	
	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)
Overall	3,181	34.3 (31.6–37.0)	4,274	46.3 (43.6–49.1)
Vaping status				
Never users	2,294	30.2 (27.8–32.7)	3,359	44.8 (41.9–47.8)
Former users	510	44.4 (40.0–48.8)	591	50.8 (46.9–54.8)
Current users	377	72.7 (67.6–77.4)	324	59.6 (54.2–64.8)
Tobacco smoking status*				
Never users	2,799	32.3 (29.8–34.9)	3,883	45.3 (42.7–47.9)
Former users	254	57.0 (50.5–63.4)	261	54.8 (46.2–63.2)
Current users	130	85.6 (78.6–91.0)	133	84.6 (76.9–90.5)

*Includes cigarettes, little cigars or cigarillos, or both.

The survey also asked respondents about secondhand exposure to tobacco smoke in multiunit housing (MUH). About a quarter (29.3%) of high school respondents reported living in MUH, which was defined as living in a single-family home attached to one or more homes or in an apartment building with two or more apartments. Only respondents who reported living in MUH were shown the survey item about exposure in MUH. Exposure to secondhand smoke in MUH was assessed by the question, “In the past 6 months, how often has tobacco smoke from somewhere else in and around the building you live in come into your unit?”

Table 39 shows respondents' exposure to secondhand smoke in MUH. About half (47.4%) of respondents reported never being exposed to smoke in their home in the last 6 months, which meant that the remaining half reported some exposure. The most commonly endorsed responses after “never” were “rarely” (25.8%) or “sometimes” (16.2%) exposed. Fewer respondents reported frequent exposure.

Table 39. Prevalence of last-6-month exposure to tobacco smoke in multiunit housing among high school respondents living in multiunit housing

Frequency of exposure	<i>N</i>	Tobacco smoke exposure* % (95% CI)
Never	1,145	47.4 (43.9–50.9)
Rarely	647	25.8 (23.4–28.2)
Sometimes	396	16.2 (14.1–18.6)
Often	162	6.5 (5.1–8.1)
Most of the time	91	4.1 (2.9–5.5)

*Includes cigarettes, little cigars or cigarillos, or both.

Exposure to Secondhand Vapor and Tobacco Smoke by Race/Ethnicity

In addition to examining exposure for the sample overall, we examined exposure to secondhand vapor and tobacco smoke by demographics. Table 40 provides data on secondhand exposure to vapor in a car or room by race/ethnicity. White respondents had the highest reported secondhand vapor exposure (33.6%) out of all racial/ethnic groups, followed by other race (29.8%) and multiracial (27.4%) respondents. Among never vapers, other race respondents (24.6) had the highest exposure to secondhand vapor.

Table 40. Prevalence of last-2-week exposure to vapor in car or room among high school respondents, by vaping status and race/ethnicity

Race/ethnicity	<i>N</i>	Overall % (95% CI)	Never vapers % (95% CI)	Former vapers % (95% CI)	Current vapers % (95% CI)
Overall	8,886	22.8 (20.3–25.5)	16.6 (14.9–18.5)	40.5 (36.0–45.2)	77.2 (70.7–82.8)
White	1,931	33.6 (28.6–38.8)	23.6 (20.1–27.3)	56.4 (46.1–66.2)	90.6 (85.4–94.4)
African American or Black	394	17.7 (11.1–26.0)	11.4 (6.0–19.2)	— —	— —
Hispanic	5,002	18.6 (16.3–21.0)	13.9 (12.2–15.8)	32.2 (27.0–37.7)	64.4 (55.5–72.7)
Asian	703	18.2 (14.3–22.5)	13.6 (10.7–17.0)	40.2 (26.2–55.5)	— —
Other	230	29.8 (22.3–38.2)	24.6 (17.3–33.2)	— —	— —
Multiracial	616	27.4 (23.0–32.0)	20.0 (16.2–24.3)	54.6† (38.7–69.8)	— —

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 41 shows secondhand exposure to tobacco smoke in a car or room by race/ethnicity. Other race respondents reported the greatest exposure (16.4%) out of all racial/ethnic groups. Among never smokers, exposure to tobacco smoke was also highest among other race respondents (16.8%).

Table 41. Prevalence of last-2-week exposure to tobacco smoke in car or room among high school respondents, by tobacco smoking status and race/ethnicity

Race/ethnicity	N	Overall % (95% CI)	Never tobacco smokers* % (95% CI)	Former tobacco smokers* % (95% CI)	Current tobacco smokers* % (95% CI)
Overall	8,898	10.5 (9.3–11.9)	9.1 (7.9–10.3)	24.7 (19.8–30.0)	56.3 (44.9–67.2)
White	1,932	12.2 (9.7–15.0)	9.7 (7.6–12.2)	23.5 (15.9–32.6)	— —
African American or Black	396	12.1 (7.6–17.8)	10.7 (6.5–16.2)	— —	— —
Hispanic	5,009	9.7 (8.2–11.3)	8.7 (7.3–10.3)	23.1 (18.0–28.9)	44.9† (28.5–62.2)
Asian	705	8.5 (5.7–11.9)	6.9 (4.3–10.5)	— —	— —
Other	230	16.4 (10.4–24.1)	16.8 (10.6–24.6)	— —	— —
Multiracial	616	11.8 (8.6–15.7)	9.7 (7.0–13.1)	21.7† (9.5–39.0)	— —

* Includes cigarettes, little cigars or cigarillos, or both.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Tables 42 and 43 present data on secondhand exposure to vapor and tobacco smoke outside by race/ethnicity. Of all racial/ethnic groups, White respondents reported the greatest secondhand exposure to vapor outside (43.8%). Among never vapers, secondhand vapor exposure outside was highest among White and other race respondents (37.5% and 37.0%, respectively).

Table 42. Prevalence of last-2-week exposure to vapor outside among high school respondents, by vaping status and race/ethnicity

Race/ethnicity	N*	Overall % (95% CI)	Never vapers % (95% CI)	Former vapers % (95% CI)	Current vapers % (95% CI)
Overall	8,855	34.3 (31.6–37.0)	30.2 (27.8–32.7)	44.4 (40.0–48.8)	72.7 (67.6–77.4)
White	1,927	43.8 (39.5–48.1)	37.5 (34.0–41.1)	56.6 (45.5–67.2)	81.5 (75.8–86.4)
African American or Black	391	25.5 (17.4–35.1)	20.7 (13.2–30.1)	— —	— —
Hispanic	4,982	32.5 (29.9–35.1)	29.5 (26.8–32.2)	39.0 (34.9–43.2)	68.4 (60.4–75.7)
Asian	703	26.5 (21.3–32.1)	22.6 (18.1–27.6)	51.0† (35.6–66.4)	— —
Other	228	38.5 (31.2–46.2)	37.0 (29.3–45.1)	— —	— —
Multiracial	613	32.8 (27.2–38.7)	29.3 (23.7–35.4)	47.7† (31.0–64.7)	57.4† (39.5–74.1)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 43 presents exposure to tobacco smoke outside by race/ethnicity. Of all racial/ethnic groups, multiracial and White respondents reported the greatest secondhand exposure to tobacco smoke outside (49.4% and 49.2%, respectively). Among never smokers, tobacco smoke exposure outdoors was highest among multiracial (47.7%) and White (47.4%) respondents.

Table 43. Prevalence of last-2-week exposure to tobacco smoke outside among high school respondents, by tobacco smoking status and race/ethnicity

Race/ethnicity	N	Overall % (95% CI)	Never tobacco smokers* % (95% CI)	Former tobacco smokers* % (95% CI)	Current tobacco smokers* % (95% CI)
Overall	8,886	46.4 (43.6–49.1)	45.3 (42.7–47.9)	54.8 (46.2–63.2)	84.6 (76.9–90.5)
White	1,930	49.2 (45.2–53.3)	47.4 (43.7–51.2)	57.6 (45.5–69.0)	86.6 (73.0–95.0)
African American or					
Black	394	36.3 (29.1–44.1)	34.5 (27.3–42.3)	— —	— —
Hispanic	5,002	45.5 (42.7–48.2)	44.8 (42.2–47.4)	51.9 (40.6–63.1)	78.6 (63.9–89.4)
Asian	705	45.8 (39.9–51.7)	45.2 (39.4–51.2)	— —	— —
Other	229	45.9 (36.2–55.9)	45.6 (35.5–55.9)	— —	— —
Multiracial	615	49.4 (41.8–56.9)	47.7 (39.5–56.1)	57.2† (37.8–75.2)	— —

*Includes cigarettes, little cigars or cigarillos, or both.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Home Bans on Vaping and Tobacco Smoking

Home bans are an important influence on tobacco use, including influencing initiation, relapse among former smokers, and continued use among current users. In two separate questions, respondents were asked to indicate which statement best described rules about (a) vaping and (b) smoking cigarettes or other tobacco products inside their homes. Respondents who indicated that vaping or smoking was not allowed anywhere or at any time inside their home were classified as having a “complete home ban” on vaping or smoking and were compared with respondents who provided all other responses for rules about vaping or smoking in the home (“incomplete home ban”).

Table 44 presents the prevalence of complete home bans on vaping and tobacco smoking by vaping and tobacco smoking status. For tobacco user status, tobacco smoke included cigarettes and LCCs to create consistency with the definition for secondhand tobacco smoke exposure.

The majority of respondents had a complete home ban on vaping and tobacco smoking (80.6% and 79.2%, respectively). Never vapers (82.0%) and former vapers (75.1%) more commonly reported complete home vaping bans than current vapers (72.1%). Similarly, never smokers (79.7%) and former smokers (74.2%) more commonly reported complete home bans on smoking than current smokers (66.4%).

Table 44. Prevalence of complete home bans on vaping and tobacco smoking among high school respondents, by current use of vapes and smoked tobacco

Use status	N	Complete home ban
		% (95% CI)
		Vaping ban
Overall	8,884	80.6 (79.2–82.0)
Never vapers	7,252	82.0 (80.7–83.3)
Former vapers	1,096	75.1 (71.1–78.7)
Current vapers	532	72.1 (65.0–78.4)
		Tobacco smoking* ban
Overall	8,850	79.2 (77.8–80.5)
Never smokers*	8,253	79.7 (78.3–81.0)
Former smokers*	440	74.2 (68.5–79.4)
Current smokers*	156	66.4 (54.9–76.5)

*Includes cigarettes, little cigars or cigarillos, or both.

We examined home bans by demographics. Tables 45 and 46 provide data on complete home bans on vaping and tobacco smoking by race/ethnicity. Asian respondents had the highest prevalence of complete home bans (82.9%), followed by Hispanic respondents (81.1%).

Table 45. Prevalence of complete home vaping bans among high school respondents, by vaping status and race/ethnicity

Race/ethnicity	Overall	Never vapers	Former vapers	Current vapers
	N = 11,537 % (95% CI)	N = 9,626 % (95% CI)	N = 1,291 % (95% CI)	N = 620 % (95% CI)
Overall	80.6 (79.2–82.0)	82.0 (80.7–83.3)	75.1 (71.1–78.7)	72.1 (65.0–78.4)
White	80.5 (78.0–82.7)	81.8 (79.5–84.0)	72.7 (65.2–79.3)	78.7 (69.7–86.0)
African American or Black	78.7 (71.2–85.0)	81.1 (72.9–87.6)	— —	— —
Hispanic	81.1 (79.3–82.9)	82.5 (80.5–84.3)	78.1 (73.9–81.8)	65.6 (53.9–76.1)
Asian	82.9 (79.1–86.3)	84.1 (80.7–87.1)	76.6 (62.6–87.3)	— —
Other	75.5 (67.3–82.6)	76.5 (67.1–84.3)	— —	— —
Multiracial	76.3 (71.3–80.9)	77.8 (72.6–82.4)	63.7† (45.6–79.4)	79.2 (62.6–90.8)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

White respondents reported the highest prevalence of complete home bans on smoking (80.9%) compared with other race/ethnicities (Table 46).

Table 46. Prevalence of complete home bans on tobacco smoking among high school respondents, by smoking status and race/ethnicity

Race/ethnicity	Overall N = 11,543 % (95% CI)	Never tobacco smokers* N = 10,858 % (95% CI)	Former tobacco smokers* N = 509 % (95% CI)	Current tobacco smokers* N = 176 % (95% CI)
Overall	79.2 (77.8–80.5)	79.7 (78.3–81.0)	74.2 (68.5–79.4)	66.4 (54.9–76.5)
White	80.9 (78.9–82.8)	81.1 (79.0–83.2)	80.9 (70.4–88.9)	73.9† (54.2–88.4)
African American or Black	75.7 (67.8–82.5)	76.2 (68.3–83.1)	— —	— —
Hispanic	79.1 (77.3–80.8)	79.7 (77.8–81.4)	71.1 (62.4–78.7)	60.5 (46.0–73.8)
Asian	79.5 (75.5–83.2)	80.3 (76.6–83.7)	— —	— —
Other	75.7 (66.4–83.6)	75.5 (66.2–83.4)	— —	— —
Multiracial	76.6 (71.1–81.5)	77.0 (71.3–82.0)	71.2† (53.0–85.4)	— —

* Includes cigarettes, little cigars or cigarillos, or both.

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Exposure to Vape and Cigarette Advertisements in Last 30 Days

Exposure to advertising influences tobacco use behavior. Respondents were asked whether they had a favorite advertisement for vaping products. They were also asked how often they saw someone smoking cigarettes or vaping on a social media site in the last 30 days (never, rarely, sometimes, often, always). Respondents were also asked how much attention they paid to social media posts about vaping (none, a little, some, or a lot).

Less than 5% (3.7%) of respondents reported having a favorite vaping advertisement. Table 47 presents exposure to perceived advertisement types for vapes among never, former, and current vapers. The prevalence of reporting having a favorite advertisement was highest among current vapers (13.4%).

Table 47. Prevalence of having favorite vaping advertisement among high school respondents, by vaping status

Have a favorite advertisement	Overall N = 8,511 % (95% CI)	Never vapers N = 6,974 % (95% CI)	Former vapers N = 1,047 % (95% CI)	Current vapers N = 490 % (95% CI)
Yes	3.7 (3.1–4.3)	2.8 (2.3–3.4)	5.4 (3.8–7.3)	13.4 (8.7–19.4)
No	96.3 (95.7–96.9)	97.2 (96.6–97.7)	94.6 (92.7–96.2)	86.6 (80.6–91.3)

Table 48 presents responses to a question about social media exposure to vaping. Respondents were asked whether they had seen someone on a social media site vaping in the last 30 days. Response options were rarely, sometimes, often, or always. The most commonly endorsed responses were never (31.4%), rarely (20.7%), or sometimes (25.4%). Responses to this

question varied by user status. Current and former vapers more commonly reported being exposed to vaping advertisements always (15.9% and 9.9%, respectively) or often (26.1% and 23.9%, respectively) compared with never vapers (4.8% always, 14.7% often).

Table 48. Last-30-day social media exposure to vaping among high school respondents, by vaping status

Frequency of exposure	Overall N = 8,465 % (95% CI)	Never vapers N = 6,936 % (95% CI)	Former vapers N = 1,043 % (95% CI)	Current vapers N = 486 % (95% CI)
Never	31.4 (29.9–32.8)	34.2 (32.7–35.8)	18.2 (15.3–21.4)	16.3 (12.3–21.1)
Rarely	20.7 (19.6–21.9)	21.8 (20.5–23.0)	17.5 (14.9–20.3)	12.3 (9.1–16.2)
Sometimes	25.4 (24.1–26.8)	24.4 (23.0–25.9)	30.5 (27.3–33.9)	29.3 (23.7–35.5)
Often	16.5 (15.0–17.9)	14.7 (13.4–16.2)	23.9 (20.3–27.8)	26.1 (21.3–31.4)
Always	6.0 (5.2–7.0)	4.8 (4.1–5.6)	9.9 (7.7–12.4)	15.9 (10.9–22.0)

Respondents also answered the same question about exposure to tobacco smoking on social media. About half (48.4%) of respondents reported never being exposed to smoking on social media in the last 30 days (Table 49). Current smokers were most exposed to smoking on social media. For example, 18.0% of current smokers reported always being exposed compared with 6.3% of former smokers and 2.8% of never smokers.

Table 49. Last-30-day social media exposure to smoking among high school respondents, by smoking status

Frequency of exposure	Overall N = 8,470 % (95% CI)	Never smokers N = 7,977 % (95% CI)	Former smokers N = 397 % (95% CI)	Current smokers N = 114 % (95% CI)
Never	48.4 (46.9–50.0)	49.3 (47.8–50.7)	36.0 (29.5–42.9)	25.8 (16.3–37.3)
Rarely	25.9 (24.6–27.2)	25.9 (24.7–27.2)	27.9 (22.9–33.3)	14.9 (8.8–23.0)
Sometimes	16.3 (15.2–17.5)	16.0 (14.9–17.2)	20.6 (15.7–26.2)	26.2 (16.9–37.4)
Often	6.3 (5.6–7.0)	6.1 (5.4–6.8)	9.2 (6.1–13.2)	15.2 (9.6–22.4)
Always	3.1 (2.6–3.6)	2.8 (2.3–3.3)	6.3 (3.7–10.1)	18.0 (8.8–30.9)

The survey asked respondents how much attention they paid to social media posts on vaping, with the response options none, a little, some, or a lot. More than half (59.1%; Table 50) of respondents reported not paying any attention to social media posts about vaping. Attention to these posts varied by vaping status. A higher percentage of current vapers reported that they paid a lot of attention to these posts (4.3%) than former (2.0%) and never (1.6%) vapers.

Table 50. Attention paid to social media posts about vaping among high school respondents, by vaping status

Amount of attention	Overall N = 8,474 % (95% CI)	Never vapers N = 6,937 % (95% CI)	Former vapers N = 1,049 % (95% CI)	Current vapers N = 488 % (95% CI)
None	59.1 (57.4–60.8)	61.2 (59.4–63.0)	50.4 (46.3–54.5)	46.0 (40.9–51.3)
A little	27.5 (26.2–28.9)	26.1 (24.6–27.6)	33.2 (30.0–36.5)	37.6 (32.3–43.1)
Some	11.6 (10.5–12.7)	11.1 (10.0–12.3)	14.4 (11.6–17.6)	12.1 (9.2–15.6)
A lot	1.8 (1.5–2.2)	1.6 (1.3–2.0)	2.0 (1.2–3.1)	4.3 (2.3–7.1)

Summary

Most high school respondents reported living in a home that had a complete home ban on tobacco smoking and vaping. Still, nearly 16.6% of never vapers had been exposed to vapor in a car or room in the last 2 weeks. Never smokers’ exposure to secondhand tobacco smoke outside (45.3%) was higher than never vapers’ exposure to secondhand vapor outside (30.2%). About half (52.6%) of respondents who lived in MUH reported any exposure to tobacco smoke in the last 6 months. White respondents reported higher exposure to secondhand vapor, and other race respondents reported higher exposure to secondhand smoke than respondents in the remaining racial/ethnic groups. Asian respondents most commonly reported complete home bans on vaping, and White respondents most commonly reported complete home bans on smoking, out of all racial/ethnic groups

More than half of respondents reported being exposed at all (rarely or more frequently) to social media posts about vaping, smoking, or both. Less than half of respondents reported paying any attention to social media posts about vaping, and few respondents reported having a favorite vaping advertisement.

CHAPTER 8 – Tobacco Endgame Questions

As part of the survey, respondents were asked their opinions about several tobacco endgame policies. They were asked how much they disagreed or agreed with the following statements: (a) the sale of all tobacco products (e.g., cigarettes, cigars, chew, vapes) should not be allowed; (b) smoking cigarettes, little cigars, or cigarillos in all public places should not be allowed; and (c) the sale of flavored tobacco (e.g., cigarettes, chew, cigars, and vapes that taste like menthol or mint, fruit, or candy) should not be allowed. Response options were “strongly agree,” “agree,” “disagree,” and “strongly disagree.” Respondents were considered supporting these policies if they responded “strongly agree” or “agree” and not supporting them if they responded “disagree” or “strongly disagree.”

Table 51 shows responses to these questions by vaping status. Overall, more than half of respondents supported these policies. The highest support was for a public tobacco use ban (69.9%), followed by a flavored tobacco ban (63.1%) and tobacco sales ban (58.5%). Never vapers had higher support for the bans in general than former or current vapers.

Table 51. Agreement with tobacco endgame policies among high school respondents, by vaping status

Vaping status	Support for tobacco sales ban		Support for public tobacco use ban		Support for flavored tobacco ban	
	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)
Overall	8,712	58.5 (56.8–60.2)	8,709	69.9 (68.1–71.7)	8,707	63.1 (61.2–64.9)
Never vapers	7,117	62.4 (60.7–64.1)	7,115	72.9 (71.0–74.8)	7,111	67.2 (65.3–69.2)
Former vapers	1,077	45.1 (41.6–48.7)	1,077	58.2 (54.5–61.9)	1,078	49.0 (45.0–53.0)
Current vapers	513	29.5 (24.9–34.5)	512	50.3 (45.3–55.3)	513	31.9 (27.3–36.7)

Findings by smoking status were similar to those by vaping status, with never smokers showing the most support for bans (Table 52).

Table 52. Agreement with tobacco endgame policies among high school respondents, by cigarette smoking status

Smoking status	Support for tobacco sales ban		Support for public tobacco use ban		Support for flavored tobacco ban	
	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)
Overall	8,712	58.5 (56.8–60.2)	8,709	69.9 (68.1–71.7)	8,707	63.1 (61.2–64.9)
Never smokers	8,204	59.9 (58.3–61.6)	8,201	71.2 (69.5–73.0)	8,198	64.5 (62.7–66.3)
Former smokers	387	35.0 (29.4–40.9)	387	48.7 (43.6–53.9)	388	37.3 (32.1–42.8)
Current smokers	121	23.9 (15.5–34.1)	121	37.4 (28.6–46.9)	121	36.4 (28.0–45.4)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

We examined support for tobacco endgame policies by demographics. Regarding gender identity, respondents identifying as female most commonly supported bans, compared with those identifying as male or in another way (Table 53). There were differences in support across

race/ethnicity categories, with Asian respondents reporting the highest support for a tobacco sales ban (64.6%) and a public tobacco use ban (75.6%), and Asian (66.6%), other race (66.6%), and African American or Black (66.4%) respondents reporting the highest support for a flavored tobacco ban. Respondents in the 10th grade reported more support for a tobacco sales ban (60.3%) and flavored tobacco ban (64.4%) than 12th-grade respondents (56.4% and 61.6%, respectively). Both grades supported the public tobacco use ban equally (69.9%).

Table 53. Agreement with tobacco endgame policies among high school respondents, by demographics

Characteristic	Support for tobacco sales ban		Support for public tobacco use ban		Support for flavored tobacco ban	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)
Overall	8,712	58.5 (56.8–60.2)	8,709	69.9 (68.1–71.7)	8,707	63.1 (61.2–64.9)
Gender						
Male	3,927	55.8 (53.2–58.4)	3,926	68.0 (65.8–70.2)	3,923	61.0 (58.6–63.5)
Female	3,821	62.3 (59.9–64.7)	3,819	73.3 (70.4–76.0)	3,820	66.6 (64.2–68.9)
Identified in another way	527	52.2 (47.0–57.3)	527	64.2 (59.2–68.9)	527	58.1 (53.3–62.8)
Declined to answer	48	— —	48	— —	48	47.6 [†] (29.8–65.9)
Race/ethnicity						
White	1,904	53.0 (50.0–55.9)	1,904	66.6 (62.6–70.4)	1,902	62.7 (59.0–66.4)
African American or Black	385	63.8 (58.0–69.2)	386	67.2 (60.6–73.4)	385	66.4 (61.7–70.8)
Hispanic	4,885	59.4 (57.3–61.5)	4,882	70.0 (67.7–72.3)	4,881	61.9 (59.7–64.1)
Asian	698	64.6 (59.5–69.4)	697	75.6 (71.5–79.3)	698	66.6 (61.3–71.7)
Other	227	60.4 (54.8–65.8)	227	67.2 (60.2–73.6)	227	66.6 (61.2–71.7)
Multiracial	604	55.3 (50.7–59.8)	604	73.0 (67.0–78.4)	605	62.6 (56.2–68.8)
Grade						
10	4,892	60.3 (58.2–62.5)	4,893	69.9 (67.6–72.2)	4,887	64.4 (62.0–66.8)
12	3,820	56.4 (53.8–59.0)	3,816	69.9 (67.7–72.0)	3,820	61.6 (59.4–63.7)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Summary

Over half of high school respondents supported tobacco endgame policies. Support was highest for a public use ban on tobacco. The second most popular endgame policy was a ban on flavored tobacco products. Support for endgame policies was highest among never or former smokers and vapers and among respondents who identified as female. Some differences existed by race/ethnicity for each ban, but these differences were small. Support was over 50% for all racial/ethnic groups and all endgame policies measured.

CHAPTER 9 – Marijuana Use

This chapter presents data on the prevalence of ever and current marijuana use across demographic characteristics. It also examines the usual mode of marijuana use among respondents who were current users of multiple marijuana products as well as current marijuana and tobacco co-use (i.e., use of both marijuana and tobacco in the last 30 days). Finally, this chapter presents data on secondhand exposure to marijuana smoke by demographics and how respondents acquired marijuana. Measuring marijuana use in the CYTS is important given high levels of marijuana use among tobacco users and the use of some tobacco products to consume marijuana (e.g., LCCs).

Marijuana Use

Table 54 presents the prevalence of ever and current marijuana use among high school respondents by demographic characteristics. The rates of ever using marijuana (21.4%) and currently using marijuana (8.8%) were higher than the rates of ever and currently using tobacco (20.1% and 6.5%, respectively).

Table 54. Prevalence of marijuana use among high school respondents, by gender, race/ethnicity, and grade

Characteristic	N*	Ever use % (95% CI)	Current use % (95% CI)
Overall	8,904	21.4 (19.0–23.9)	8.8 (7.2–10.5)
Gender			
Male	3,949	19.7 (17.2–22.3)	8.3 (6.7–10.2)
Female	3,840	21.4 (18.4–24.5)	7.4 (5.8–9.3)
Identified in another way	532	26.9 (21.4–32.9)	13.2 (9.9–17.0)
Declined to answer	54	16.9† (6.7–32.7)	13.1† (4.6–27.5)
Race/ethnicity			
White	1,934	25.5 (20.0–31.7)	13.5 (9.8–18.0)
African American or Black	396	26.2 (20.1–33.1)	10.0 (6.3–14.8)
Hispanic	5,011	21.2 (19.5–22.9)	7.5 (6.4–8.7)
Asian	705	13.2 (8.6–19.1)	4.1 (2.2–6.9)
Other	231	14.0 (9.2–20.2)	3.3 (1.6–6.1)
Multiracial	616	21.4 (17.1–26.2)	11.0 (8.1–14.4)
Grade			
10	4,999	16.5 (14.4–18.8)	5.9 (4.6–7.4)
12	3,905	26.7 (23.4–30.3)	12.0 (9.7–14.6)

* Reflects the sample size for ever having used marijuana. Some respondents reported that they had tried marijuana but did not currently use it. These were treated as missing at random in analysis.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

We observed differences in marijuana use by demographics. Respondents who identified in another way (13.2%) and respondents who declined gender identity questions (13.1%) had a higher prevalence of current marijuana use than respondents who identified as female (7.4%) or male (8.3%). White respondents (13.5%) had the highest prevalence of current use of marijuana, and other race respondents had the lowest rate of marijuana use (3.3%). The prevalence of current marijuana use among 12th-grade respondents was twice that of 10th-grade respondents (12.0% vs. 5.9%, respectively).

The CYTS included questions designed to determine methods of using marijuana. Respondents who reported ever using marijuana were asked how they had used it. Those who endorsed ever using more than one type of marijuana product were asked “During the last 30 days, how did you usually use marijuana?” Table 55 presents the usual mode of marijuana use among these respondents. Smoking (48.8%) was the most common mode of use, followed by vaping (32.9%). The least common modes of use were drinking (0.6%) and using in some other way (0.9%).

Table 55. Usual mode of marijuana use among high school respondents who reported currently using multiple marijuana products

Mode of use	Usual mode of use <i>N</i> = 828 % (95% CI)
Smoked	48.8 (44.3–53.4)
Vaped	32.9 (28.2–38.0)
Ate	13.4 (10.8–16.4)
Drank	0.6 (0.2–1.4)
Dabbed	3.4 (2.1–5.1)
Used in some other way	0.9 (0.3–1.8)

Marijuana Use and Tobacco Co-Use

Table 56 further categorizes current marijuana use based on whether respondents used marijuana only or co-used marijuana and any tobacco product. Overall, the prevalence for current use of marijuana only (4.5%) was slightly higher than current use of both marijuana and tobacco (4.2%).

Table 56. Prevalence of current marijuana only use and current co-use of marijuana and any tobacco product among high school respondents, by gender, race/ethnicity, and grade

Characteristic	N	Use of marijuana only		Co-use of marijuana and any tobacco product	
		% (95% CI)		% (95% CI)	
Overall	8,905	4.5	(3.8–5.4)	4.2	(3.3–5.4)
Gender					
Male	3,951	4.4	(3.7–5.3)	3.9	(2.8–5.1)
Female	3,837	4.0	(3.1–5.1)	3.4	(2.4–4.7)
Identified in another way	533	6.1	(4.3–8.5)	7.0	(4.4–10.5)
Declined to answer	55	5.3†	(0.9–15.8)	7.8†	(2.9–16.5)
Race/ethnicity					
White	1,933	6.5	(4.9–8.5)	7.0	(4.7–10.0)
African American or Black	396	6.2	(3.5–9.9)	3.8	(2.1–6.4)
Hispanic	5,012	4.1	(3.4–4.8)	3.5	(2.7–4.4)
Asian	705	2.0	(0.9–3.8)	2.1	(0.8–4.4)
Other	231	1.1	(0.2–3.3)	2.2	(0.8–4.8)
Multiracial	617	5.8	(3.9–8.4)	5.1	(2.9–8.4)
Grade					
10	5,000	2.8	(2.2–3.5)	3.1	(2.2–4.2)
12	3,905	6.5	(5.3–7.9)	5.5	(4.1–7.2)

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 56 also includes differences in marijuana use by demographics. Use of marijuana only and co-use of marijuana and tobacco were highest among respondents who identified their gender in another way (6.1% marijuana only, 7.0% co-use) or declined to answer questions about gender identity (5.3% marijuana only, 7.8% co-use). Use of marijuana alone was highest among White respondents (6.5%), but African American or Black respondents had similar levels of use for marijuana alone (6.2%). Current co-use of marijuana and tobacco was highest among White respondents (7.0%). Both marijuana only use and marijuana-tobacco co-use were higher among 12th-graders (6.5% marijuana only, 5.5% co-use) than among 10th-graders (2.8% marijuana only, 3.1% co-use).

Table 57 presents the prevalence of current marijuana and tobacco co-use by specific tobacco product (vapes, cigarettes, and LCCs). For vapes, cigarettes, and LCCs, more than half of current users of these products reported current co-use of marijuana and tobacco. Co-use of marijuana was higher among LCC users (84.3%) than among vapers (67.3%) and cigarette smokers (67.5%).

Table 57. Prevalence of current co-use of marijuana and tobacco among current marijuana users in high school, by tobacco product currently used

Tobacco product	N	Co-use of marijuana and tobacco
		% (95% CI)
Vapes	533	67.3 (62.0–72.4)
Cigarettes	123	67.5 (54.8–78.6)
LCCs	55	84.3 (69.2–93.9)

Note. LCCs = little cigars or cigarillos.

Exposure to Secondhand Marijuana Smoke in Last 2 Weeks

The 2022 CYTS asked about high school respondents' exposure to secondhand marijuana smoke in a car or room in the last 2 weeks. The survey also asked about outdoor exposure to marijuana smoke, which includes being near someone who was smoking marijuana outside of a restaurant, outside of a store, or at a park, playground, or beach in the last 2 weeks.

Table 58 presents exposure to marijuana smoke indoors and outdoors. Overall, 17.4% of respondents reported being exposed to marijuana smoke in a car or room within the last 2 weeks. Current marijuana users reported greater exposure in a car or room, relative to former and never users. Exposure to secondhand marijuana smoke outdoors was more common, with 29.0% of respondents reporting exposure in the last 2 weeks. Current marijuana users reported higher exposure to marijuana smoke outside than never and former users.

Table 58. Prevalence of last-2-week exposure to marijuana smoke in car or room or outside among high school respondents, by marijuana user status

Marijuana use status	Exposure in car or room		Exposure outside	
	N	% (95% CI)	N	% (95% CI)
Overall	8,889	17.4 (15.4–19.6)	8,872	29.0 (26.5–31.6)
Never users	6,891	8.3 (7.3–9.4)	6,873	22.2 (20.3–24.2)
Former users	1,163	34.3 (30.7–37.9)	1,164	44.3 (40.4–48.3)
Current users	828	75.2 (71.7–78.5)	827	67.9 (62.6–72.7)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

Table 59 presents data on secondhand exposure to marijuana smoke in a car or room by race/ethnicity and marijuana user status. Overall, rates of exposure to marijuana smoke in a car or room by race/ethnicity were highest among White respondents (24.5%). Across racial/ethnic groups, rates of exposure to secondhand marijuana smoke in a car or room were generally highest for current users, followed by former and never users.

Table 59. Prevalence of last-2-week exposure to marijuana smoke in car or room among high school respondents, by race/ethnicity and marijuana use status

Race/ethnicity	N	Overall % (95% CI)	Never users % (95% CI)	Former users % (95% CI)	Current users % (95% CI)
Overall	8,882	17.4 (15.4–19.5)	8.3 (7.3–9.4)	34.3 (30.7–37.9)	75.2 (71.7–78.5)
White	1,929	24.5 (20.1–29.4)	11.1 (8.9–13.6)	42.8 (36.5–49.3)	82.7 (78.7–86.2)
African American or Black	395	15.9 (10.4–23.0)	6.2 (3.4–10.2)	24.6 (12.6–40.4)	74.0 [†] (56.5–87.3)
Hispanic	4,999	16.0 (14.4–17.7)	8.2 (7.0–9.6)	32.2 (27.3–37.3)	69.2 (63.9–74.2)
Asian	704	10.4 (7.4–14.0)	5.4 (3.4–8.0)	26.4 (17.7–36.8)	79.6 [†] (60.7–92.1)
Other	230	13.3 (8.0–20.4)	7.0 [†] (3.0–13.5)	— —	— —
Multiracial	615	17.1 (12.1–23.1)	6.7 (4.0–10.4)	33.2 (21.9–46.1)	76.1 (59.5–88.3)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Table 60 presents data on secondhand exposure to marijuana smoke outside in the last 2 weeks by race/ethnicity and marijuana use status. Overall, the rate of exposure to secondhand marijuana smoke outside was highest among White respondents (34.7%). Exposure to secondhand marijuana smoke outside was generally highest for current users, followed by former and never users.

Table 60. Prevalence of last-2-week exposure to marijuana smoke outside among high school respondents, by race/ethnicity and marijuana use status

Race/ethnicity	N	Overall % (95% CI)	Never users % (95% CI)	Former users % (95% CI)	Current users % (95% CI)
Overall	8,864	29.0 (26.5–31.6)	22.2 (20.3–24.2)	44.3 (40.4–48.3)	67.9 (62.7–72.8)
White	1,928	34.7 (29.1–40.7)	25.9 (21.2–30.9)	44.9 (37.0–52.9)	74.7 (67.2–81.3)
African American or Black	393	23.1 (15.7–32.1)	13.7 (8.2–20.9)	— —	59.7 [†] (40.2–77.3)
Hispanic	4,984	29.4 (27.1–31.7)	23.2 (21.0–25.6)	44.9 (40.9–48.8)	65.6 (58.7–72.1)
Asian	705	19.1 (14.9–23.8)	14.0 (11.1–17.4)	41.1 (27.0–56.3)	76.7 [†] (58.5–89.7)
Other	230	24.5 (17.3–32.9)	22.1 (15.1–30.5)	— —	— —
Multiracial	613	28.1 (23.2–33.5)	22.4 (18.1–27.3)	45.4 (33.2–58.0)	52.4 (37.6–66.8)

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Acquisition of Marijuana

Table 61 presents how respondents usually acquired marijuana. The most common method of obtaining marijuana overall was respondents buying it themselves (35.9%), followed by someone giving it to them (30.3%). Of those who reported buying it themselves, the most common methods of obtaining it was from a store or dispensary (40.5%) or from someone (40.4%).

Table 61. Method of acquiring marijuana among high school respondents currently using marijuana

Method of acquisition	<i>N</i> = 832 % (95% CI)
I ask someone to buy it for me	14.7 (11.7–18.1)
Someone gives it to me	30.3 (25.6–35.4)
I ask someone for it	8.5 (6.2–11.4)
I take it from someone	2.6 (1.6–4.1)
I grow my own	2.9 (1.8–4.3)
I get it some other way	5.0 (2.9–7.9)
I buy it myself	35.9 (30.9–41.2)
From a store or dispensary	40.5 (34.1–47.0)
On the Internet (including apps)	3.5 (1.7–6.4)
From a delivery service	6.4 (3.5–10.5)
From someone	40.4 (32.9–48.2)
Some other way	9.3 (5.4–14.8)

Summary

Current use of marijuana was more common than current use of tobacco products. Current use was highest among respondents who did not identify as male or female, who identified as White, and who were in 12th grade. The prevalence of current use of marijuana only and current co-use of tobacco and marijuana was approximately equal among high school students. Co-use was highest among White respondents, respondents who declined to answer questions about gender identity, and 12th-graders. Marijuana-tobacco co-use was higher among LCC users than among vapers and current smokers.

The two most common modes of marijuana use were smoking and vaping. Exposure to marijuana smoke was higher outside than in a car or room. Exposure to secondhand marijuana smoke was highest among White respondents. Among current marijuana users, the most common method of obtaining marijuana among high school respondents was buying it for themselves and, among those who purchased it, buying it from a store or dispensary.

CHAPTER 10 – 8th-Grade Tobacco Use

The following chapter summarizes key tobacco use data for 8th-grade respondents. Due to differences in the prevalence of use of tobacco products and the sampling approach between middle schools and high schools (8th-grade respondents were undersampled), data for 8th-grade respondents are presented separately.

Tobacco Use Among 8th-Grade Respondents

Table 62 presents the prevalence of ever and current use of tobacco among 8th-grade respondents. The prevalence of current tobacco use was lower for 8th-grade respondents (4.0%) than high school respondents (6.6%). As was also the case with high school respondents, among 8th-grade respondents, current vaping was the most common form of current tobacco use (3.4% of 8th-grade respondents), followed by current use of cigarettes and LCCs (both 0.4%). Of the 3.4% of 8th-grade respondents who reported vaping in the last 30 days, 30.1% reported frequent vaping (20 or more days in the last 30 days), and 14.9% reported vaping daily in the last 30 days (14.9% is an imprecise estimate due to small sample sizes).

Table 62. Prevalence of tobacco use among 8th-grade respondents

Tobacco product	Ever use <i>N</i> = 2,636 % (95% CI)	Current use <i>N</i> = 2,636 % (95% CI)
Any tobacco use	13.7 (11.4–16.3)	4.0 (2.7–5.7)
Vapes	10.9 (8.5–13.6)	3.4 (2.2–4.9)
Cigarettes	2.9 (2.0–4.1)	0.4 (0.2–0.9)
LCCs	1.0 (0.5–1.9)	0.4 (0.2–0.8)
Cigars	0.7 (0.4–1.1)	0.2 (0.1–0.6)
Hookah	0.9 (0.6–1.4)	0.3 (0.1–0.7)
Smokeless	1.1 (0.7–1.7)	0.3 (0.1–0.6)
HTPs	0.8 (0.3–1.7)	0.2 (0.0–0.6)
Nicotine pouches	2.4 (1.8–3.3)	0.5 (0.2–0.9)

Note. HTPs = heated tobacco products; LCCs = little cigars or cigarillos.

Table 63 presents tobacco use prevalence, both ever and current use, among 8th-grade respondents by demographics. Current tobacco use was higher among 8th-grade respondents who identified their gender in another way (5.7%) than those who identified as female (4.6%) or male (2.3%). Respondents who declined to answer the gender identity question had the lowest prevalence of current tobacco use (0.5%).

Table 63. Prevalence of ever and current use of any tobacco among 8th-grade respondents, by gender and race/ethnicity

Characteristic	N*	Ever use % (95% CI)	Current use % (95% CI)
Overall	2,636	13.7 (11.4–16.3)	4.0 (2.7–5.7)
Gender			
Male	1,114	10.6 (8.3–13.4)	2.3 (1.3–3.9)
Female	1,057	15.5 (12.1–19.5)	4.6 (3.1–6.5)
Identified in another way	189	15.4 (8.5–24.9)	5.7 [†] (1.1–16.2)
Declined to answer	29	17.6 [†] (7.0–33.7)	0.5 (0.0–3.5)
Race/ethnicity			
White	432	12.4 (8.6–17.1)	3.9 [†] (1.2–9.0)
African American or Black	169	15.1 (9.4–22.5)	5.0 [†] (1.5–12.1)
Hispanic	1,461	15.9 (12.6–19.7)	4.3 (2.9–6.1)
Asian	226	6.3 [†] (2.8–12.1)	2.4 [†] (0.6–6.6)
Other	98	11.5 (6.3–18.8)	4.3 [†] (0.5–15.0)
Multiracial	245	10.3 (6.2–15.9)	3.2 [†] (1.1–7.0)

* Reflects the sample size for ever having used tobacco. Some respondents answered that they had tried tobacco but did not currently use it. These were treated as missing at random in analysis.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

Among 8th-grade respondents, any current tobacco use was highest among African American or Black respondents (5.0%). Asian 8th-grade respondents had the lowest prevalence of any tobacco use (2.4%). Given that several of these estimates are imprecise due to small sample sizes, differences between these estimates should be interpreted with caution.

Flavored Tobacco Use Among 8th-Grade Respondents

Table 64 presents the prevalence of flavored tobacco use among current vapers. All products except vapes were excluded from this table due to small sample sizes ($n = 13$ for cigarettes, $n = 6$ for LCCs, $n = 5$ for cigars, $n = 7$ for hookah). Consistent with the findings for high school respondents (Chapter 3), the use of flavored vapes (92.8%) was prevalent among 8th-grade respondents who currently vape.

Table 64. Prevalence of flavored tobacco use among 8th-grade respondents currently using vapes

Tobacco product	N*	Flavored product use % (95% CI)
Vapes	85	92.8 (83.6–97.7)

Exposure to Secondhand Vapor and Tobacco Smoke in Last 2 Weeks Among 8th-Grade Respondents

Table 65 reports 8th-grade respondents' exposure to secondhand vapor and tobacco smoke in a car or room, outside, and in MUH. Among 8th-grade respondents, 17.1% had been exposed to vapor in a car or room, and 30.9% had been exposed to vapor outside in the last 2 weeks. Exposure to tobacco smoke in a car or room was lower (12.7%) than exposure to vaping indoors, but exposure to tobacco smoke outside was higher (48.6%) than outdoor exposure to vapor. Of the 35.7% of 8th-grade respondents who lived in MUH, 55.9% reported smoke intruding into their unit rarely or more often in the last 6 months.

Eighth-grade respondents had lower rates of exposure to vapor in a car or room (17.1%) and outside (30.9%) compared with high school respondents (22.8% and 34.3%, respectively; see Chapter 7). Eighth-grade respondents' exposure to secondhand tobacco smoke in a car or room (12.7%), outside (48.6%), or in MUH (55.9%) was similar to that of high school respondents' exposure (10.5%, 46.3%, and 52.6%, respectively; see Chapter 7).

Table 65. Prevalence of last-2-week exposure to vapor and tobacco smoke in car or room, outside, or multiunit housing among 8th-grade respondents living in multiunit housing

Location of exposure	N	Vapor		N	Tobacco smoke*	
			% (95% CI)			% (95% CI)
In a car or room	2,632		17.1 (13.8–20.9)	2,632		12.7 (9.7–16.3)
Outside	2,621		30.9 (28.3–33.7)	2,625		48.6 (44.9–52.4)
In multiunit housing**	N/A	N/A	N/A	934		55.9 (51.1–60.6)

* Includes cigarettes, little cigars or cigarillos, or both.

** Only asked of respondents who reported living in a home attached to one or more other homes or a building with two or more apartments. Exposure is defined as reporting smoke intrusion rarely, sometimes, often, or most of the time in the last 6 months.

Access to Vapes and Cigarettes Among 8th-Grade Respondents

Table 66 presents how 8th-grade respondents who were current vapers reported obtaining their vapes (or pods or e-liquid). The most commonly reported sources were someone giving them to (26.8%) or someone buying them for (22.9%) the respondent. Rates of buying their own vapes were lower among 8th-grade respondents compared with high school respondents (12.6% vs. 34.2%, respectively; see Chapter 4).

Table 66. Method of accessing vapes (or pods or e-liquid) among 8th-grade respondents who were current vapers

Method of access	<i>N</i> = 85 % (95% CI)	
I ask someone to buy them for me	22.9	(11.4–38.4)
Someone gives them to me	26.8	(16.2–39.9)
I ask someone for them	11.6†	(4.4–23.4)
I take them from someone	16.5	(8.9–26.9)
I get them some other way	9.6†	(3.8–19.1)
I buy them myself	12.6†	(5.4–23.8)
From a gas station or convenience store	—	—
From a grocery store		
From a drugstore or pharmacy	0	—
From a liquor store	—	—
From a tobacco or smoke shop	5.2†	(0.8–16.7)
From a vape shop	—	—
From a mall or shopping center kiosk/stand	0	—
On the Internet (including apps)		
From someone	—	—
Some other way	—	—

— The estimate has been suppressed due to small sample sizes, specifically, a nominal or effective sample size less than 30.

† The estimate should be interpreted with caution given concerns about precision. The estimate meets one or both of the following criteria: (a) the absolute width of the Korn-Graubard confidence interval for the estimate is ≥ 0.30 OR (b) the absolute width of the Korn-Graubard confidence interval is < 0.30 and > 0.05 and the relative width of the Korn-Graubard confidence interval is greater than 130% of the estimate.

We were unable to compare methods of purchasing cigarettes among current cigarette smokers in 8th grade because of small sample sizes ($n = 13$).

Marijuana Use Among 8th-Grade Respondents

Table 67 presents the prevalence of ever and current marijuana use among 8th-grade respondents. The rates of ever using marijuana (9.3%) and currently using marijuana (3.1%) were lower than rates reported by high school respondents (21.4% and 8.8%, respectively; see Chapter 9).

Table 67. Prevalence of marijuana use among 8th-grade respondents

Marijuana use	<i>N</i>	Ever use % (95% CI)	<i>N</i>	Current use % (95% CI)
Yes	232	9.3 (7.2–11.7)	79	3.1 (1.8–5.0)
No	2,401	90.7 (88.3–92.8)	2,556	96.9 (95.0–98.2)

Exposure to Secondhand Marijuana Smoke in Last 2 Weeks

Table 68 reports 8th-grade respondents' exposure to secondhand marijuana smoke in a car or room and outside in the last 2 weeks. Respondents were considered exposed outside if they reported having been near someone who was smoking marijuana outside of a restaurant, outside of a store, or at a park, playground, or beach in the last 2 weeks.

Overall, 10.3% of 8th-grade respondents reported being exposed to marijuana smoke in a car or room within the last 2 weeks. Fewer 8th-grade respondents reported exposure in a car or room (10.3%) than high school respondents (17.4%; see Chapter 9). Less than a quarter of 8th-grade respondents (20.8%) reported being exposed outside; this figure was similar to that reported for high school respondents (29.0%; see Chapter 9).

Table 68. Prevalence of last-2-week exposure to marijuana smoke in car or room or outside among 8th-grade respondents

Exposure	Exposure in car or room		Exposure outside	
	<i>N</i>	% (95% CI)	<i>N</i>	% (95% CI)
Yes	241	10.3 (7.9–13.1)	538	20.8 (17.7–24.2)
No	2,389	89.7 (86.9–92.1)	2,082	79.2 (75.8–82.3)

CONCLUSION

Overall, tobacco use among high school respondents was low, with 6.6% reporting having used any tobacco product in the last 30 days. Vapes were the most commonly used tobacco product, with 5.6% of high school respondents reporting using them in the last 30 days. Current use was very low for cigars, LCCs, hookah, and smokeless tobacco.

Differences in tobacco use were evident by LGBTQ+ status, general mental health, rurality, and experiences of discrimination. About half of high school respondents who were current vapers reported attempting to quit vaping in the last 12 months, and about half reported intending to quit in the next 30 days. Quit attempts and intention to quit varied across gender, grade, LGBTQ+ status, and rurality.

Almost all current tobacco users reported using flavored tobacco products. Use of flavored tobacco was most commonly reported for vapes, and the most popular vape flavor was fruit. Approximately one-third of current vapers and one-quarter of smokers reported buying their own tobacco products. Among vapers, vape shops were the most common source of vapes. High school respondents perceived that it was easier to obtain vapes than cigarettes.

About a third of never vapers were susceptible to future vaping (40.7%), with higher susceptibility among those who identified as Hispanic or multiracial or identified their gender in another way. Susceptibility to cigarettes (16.9%) and LCCs (20.4%) was lower.

For both vapes and cigarettes, susceptibility was higher for those who reported peer use. Poor mental health was associated with greater susceptibility to use among never users. This finding is consistent with endorsement of relaxing or relieving stress and anxiety as the top reason for vaping among current vapers in high school.

Overall, high school respondents reported higher levels of disapproval of vaping and smoking among adults than peers. In general, respondents reported higher levels of disapproval for cigarette smoking than for vaping. Over half of respondents in high school expressed support for tobacco endgame policies, including bans on tobacco sales, public use of tobacco, and sales of flavored tobacco. Support for these policies varied by vaping and cigarette smoking status.

Most high school respondents reported having a complete home ban on vaping or tobacco smoking in their home. Approximately half of respondents living in MUH reported some exposure to smoke in the home in the last 6 months. Very few respondents endorsed having a favorite vaping advertisement. However, about two-thirds of respondents reported exposure to vaping on social media.

Among high school respondents, current use of marijuana (8.8%) was more common than current use of tobacco products. Current marijuana use was highest among respondents who identified their gender in another way or declined to answer, who were White, and who were in 12th grade. The two most common modes of marijuana use were smoking and vaping. Co-use of marijuana and tobacco and marijuana only use were equally common among

respondents in high school. Out of vapes, cigarettes, and LCCs, LCCs were the most common product used in combination with marijuana. Among current marijuana users, the most common method of obtaining cannabis among high school respondents was buying it for themselves and, among those who purchased it, buying from a store or dispensary or from another person. Less than 20% of high school respondents reported exposure to secondhand marijuana smoke in a car or room in the last 2 weeks.

Prevalence of tobacco use was lower for 8th-grade respondents than high school respondents, and vaping was the most common form of current use. The majority of 8th-grade respondents who currently vape use flavored vapes. Respondents most commonly acquired vapes by someone giving them the vapes or by asking someone to buy them. Eighth-grade respondents had a lower prevalence of marijuana use than high school respondents, with 3.1% reporting use in the last 30 days and 9.3% reporting ever use.

Implications

California's endgame goal is to eliminate the use of all tobacco products. The results of the 2022 CYTS suggest that, for youth, California is close to achieving this goal, with the exception of vapes, which youth continue to use. However, California's flavor ban may affect use of these products in the future. In the 2022 CYTS, fruit flavors were popular for vaping. Future CYTS analyses will examine whether flavor preferences change after implementation of the flavor ban. In terms of social norms, adoption of vape- and smoke-free policies in the home is high, as is support of tobacco control policies.

Marijuana use is more common than tobacco use, and it will be important to continue to track this trend. Youth exposure to secondhand vapor, tobacco smoke, and marijuana continues to occur.

Although tobacco use is relatively low, a substantial portion of youth remain susceptible, particularly to vaping. Perceived ease of access of vapes was high, with obtaining them from someone else being most endorsed. Respondents perceived vapes as easier to obtain than cigarettes. Some youth reported exposure to vaping and cigarette smoking on social media.

The reported methods of obtaining tobacco and marijuana have policy implications. About a third of current vapers and current marijuana users in high school reported buying their own product. Among youth who purchased vapes, vape shops were a commonly endorsed point of sale. Similarly, among youth who reported purchasing their own marijuana, many reported purchasing from a dispensary or store. Additional monitoring of underage sales in vape shops and marijuana dispensaries, specifically enforcement of ID checks, may be warranted.

APPENDIX A – List of Terms

Tobacco Products and Marijuana

Any tobacco use: Use of one or more of the following products: vapes, cigarettes, little cigars or cigarillos, cigars, hookah, smokeless tobacco, heated tobacco products, or nicotine pouches.

Cigarettes: Definition from survey: “Cigarettes are sold in packs and cartons. Popular brands include Marlboro, Newport, Pall Mall, Camel, and Winston.”

Cigars: Definition from survey: “Big cigars, also called traditional, regular, or premium cigars, are tobacco wrapped in a tobacco leaf. Popular brands are Macanudo, Romeo Y Julieta, Arturo Fuente, Cohiba, Davidoff, and Ashton, but there are many others.”

Heated tobacco products (HTPs): For example, IQOS; also called heat-not-burn products.

Hookah: Also called waterpipe or shisha.

Little cigars or cigarillos (LCCs): Definition from survey: “Little cigars, cigarillos, and filtered cigars are wrapped in tobacco leaf or brown paper containing tobacco. They are smaller than big cigars and may be flavored. Popular brands include Swisher Sweets, Backwoods, Dutch Masters, Captain Black, Prime Time, White Owl, Black & Mild, Phillies Blunts, Zig Zag, and Cheyenne.”

Marijuana: Definition from survey: “Marijuana (including joints, blunts, vapes, and edibles) is commonly known as cannabis, weed, pot, hash, grass, THC, or CBD. It can be smoked (joint, blunt, bong), vaped in a wax pen, eaten (baked goods, candies), drank (tea, cola, alcohol), or dabbed.” The term marijuana (instead of cannabis) is used throughout this report, as youth were asked specifically about their marijuana use in the survey instrument.

Nicotine pouches: Products like Zyn, On, or Velo.

Smokeless tobacco: Chewing tobacco, snuff, snus, dip, or dissolvable tobacco.

Tobacco smoker: This term was used to examine exposure to smoked tobacco (cigarettes or little cigars or cigarillos [LCCs]) by tobacco smoker (cigarettes or LCCs) status. For this variable, respondents who reported current use of cigarettes or LCCs were classified as current tobacco smokers. Respondents who reported ever use of either of these products but using neither product in the last 30 days were considered former tobacco smokers. Respondents who reported never use of both cigarettes and LCCs were considered never tobacco smokers.

Vapes: Definition from survey: “These products are sometimes called by their brand names (e.g., Puff Bar, Bang Bar, JUUL) or by terms such as e-cigarettes, vape pens, personal vaporizers and mods, e-cigars, e-pipes, e-hookahs, and hookah pens.”

Product Use Definitions

Current use: Use of a product within the last 30 days.

Ever use: Response of “yes” to a question about ever using a product.

Flavored tobacco use: Use of tobacco products that tasted like menthol or mint; cooling, ice, or frosty; clove or spice; fruit; an alcoholic drink (such as wine, cognac, margarita, or other cocktails), a nonalcoholic drink (such as coffee, soda, energy drinks, or other beverages); candy, chocolate, desserts or other sweets. See separate definition for cigarettes.

Former tobacco use: Use of a tobacco product, but not within the last 30 days.

Intention to quit vaping: Plan to quit using vapes in the next 30 days.

Menthol cigarette use: Response of “yes” to the following survey item: “Menthol cigarettes are cigarettes that taste like mint. Common brands include Newport, Salem, and Kool. Were any of the cigarettes you smoked in the last 30 days flavored, such as menthol?”

Never tobacco use: Response of “no” to ever using any tobacco products.

Polytobacco use: Use of two or more tobacco products within the last 30 days.

Quit attempt for vaping: One or more attempts to completely stop using vapes in the last 12 months.

Tobacco-marijuana co-use: Use of marijuana and at least one tobacco product within the last 30 days.

Created Variables and Other Definitions

Race/ethnicity

Hispanic: Response of “yes” to the question “Are you of Hispanic or Latino/Latina origin,” regardless of race(s) reported.

Non-Hispanic single race (African American or Black, Asian, White): Response of “no” to the Hispanic ethnicity question and report of African American or Black, Asian, or White when asked “How do you describe yourself?”

Non-Hispanic multiracial: Response of “no” to the Hispanic ethnicity question and report of two or more races.

Non-Hispanic other race: Response of “no” to the Hispanic ethnicity question and report of one of the following: some other race (i.e., a race not listed), American Indian or Alaska Native (AI/AN), or Native Hawaiian or other Pacific Islander (NHOPI). AI/AN and NHOPI respondents were included in this category due to small sample sizes for these two groups. When possible, values were displayed for these groups individually (separate from respondents who endorsed other race).

Gender

Gender: Options for gender in the survey were “male,” “female,” “transgender,” “something else,” and “I’m not sure yet.” Responses were recoded so that “transgender,” “something else,” and “I’m not sure yet” were collapsed into a single category called “identified in another way.” A fourth category, “declined to answer,” was created for respondents who skipped this question. Respondents who did not reach this question were assigned a value of missing for this variable.

Sexual orientation: Options for sexual orientation in the survey were “gay or lesbian”; “straight, that is, not gay or lesbian”; “bisexual”; “something else”; “I’m not sure yet”; or “don’t know what this question means.”

LGBTQ+ status: This variable was defined by combining responses to survey items about gender and sexual orientation (see response options above). Respondents who did not provide enough information to be included in any of the below categories were assigned a value of missing for LGBTQ+ status.

LGBTQ+: Respondents who reported their gender identity as transgender or “something else” and/or selected one of the following responses for their sexual orientation:

- Gay or lesbian
- Bisexual
- “Something else”
- “Don’t know what this question means”

Non-LGBTQ+: Respondents who reported

- their gender identity as male or female; and
- their sexual orientation as “straight, that is, not gay or lesbian.”

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

- selected “I’m not sure yet” for gender identity and reported their sexual orientation as “straight, that is, not gay or lesbian;” or
- selected male, female, or “I’m not sure yet” for gender identity and responded “I’m not sure yet” or “don’t know what this question means” for sexual orientation.

Rurality

We used the National Center for Education Statistics (NCES) definition of rurality to code all respondents based on the rurality of their school’s location. NCES divides school locations into 12 categories.¹³ We collapsed these 12 categories into three categories: city, suburb, and town or rural area.

¹³ National Center for Education Statistics. (n.d.). *Education demographic and geographic estimates*. Retrieved March 1, 2023, from <https://nces.ed.gov/programs/edge/Geographic/LocaleBoundaries>.

City: Respondent's school is in an area classified by NCES as a small, midsize, or large city. City is defined as a territory inside an urbanized area and inside a principal city, and size is determined by population.

Suburb: Respondent's school is in an area classified by NCES as a small, midsize, or large suburb. Suburb is a territory outside of a principal city and inside an urbanized area, and size is determined by population.

Town or rural area: Respondent's school is in a fringe, distant, or remote town or rural area. Town is defined as a territory inside of an urban cluster, and the type of town is based on distance from an urbanized territory. Rural area is defined as a census-defined rural territory, and the type of rural area is based on distances from urbanized areas and urban clusters.

Other

Adult disapproval of smoking: Respondents' indication that adults important to them would feel negatively (negative and very negative as opposed to positive or very positive) about the respondent smoking.

Adult disapproval of vaping: Respondents' indication that adults important to them would feel negatively (negative and very negative as opposed to positive or very positive) about the respondent vaping.

Peer disapproval of smoking: Respondents' indication that other respondents at their school would view smoking cigarettes negatively (negative and very negative as opposed to positive or very positive).

Peer disapproval of vaping: Respondents' indication that other respondents at their school would view vaping negatively (negative and very negative as opposed to positive or very positive).

Complete home ban on vaping: Response of "vaping is not allowed anywhere or at any time inside my home" when asked about rules about vaping inside the home.

Complete home ban on tobacco smoking: Response of "smoking cigarettes or other tobacco products is not allowed anywhere or at any time inside my home" when asked about rules about smoking cigarettes or other tobacco products inside the home.

Discrimination: This variable measures experiences of discrimination in the last month. Response options were "almost everyday," "at least once a week," "a few times," or "not at all." The individual items were modified for youth from the Everyday Discrimination Scale.¹⁴ The original scale does not specify a period for experiences, but we added one based on confusion about the original wording of the item during cognitive testing. Although these

¹⁴ Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology, 2*(3), 335–351.

items are traditionally analyzed as a scale, to characterize experiences of youth in the sample in depth, we included responses to individual items in this report. Respondents who endorsed any listed experience of discrimination, consistent with the original scale, were asked to attribute their experiences to one or more factors. Respondents were coded as attributing the discrimination to a specific characteristic if they endorsed that characteristic, regardless of whether they also endorsed other characteristics.

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

Exposure to secondhand tobacco smoke outside: Being near someone who was smoking a cigarette, little cigar, or cigarillo outside of a restaurant, outside of a store, or at a park, playground, or beach in the last 2 weeks.

Exposure to secondhand tobacco smoke in multiunit housing: Among respondents who indicated living in multiunit housing, answering “rarely,” “sometimes,” “often,” or “most of the time” (as opposed to “never”) to the question “In the past 6 months, how often has tobacco smoke from somewhere else in and around the building you live in come into your unit?”

Exposure to secondhand vapor in a car or room: Being in a car or room when someone was using a vape in the last 2 weeks.

Exposure to secondhand vapor outside: Being near someone who was using a vape outside of a restaurant, outside of a store, or at a park, playground, or beach in the last 2 weeks.

General mental health: Assessed by asking, “In general, how would you rate your mental health?” Response options were coded as good to excellent (“good,” “very good,” or “excellent”) versus fair or poor.

Living in multiunit housing: Response of “a one-family house attached to one or more houses,” “a building with two apartments,” or “a building with three or more apartments” to the question, “Which of the following options best describes where you live most of the time?” Other response options were “a mobile home,” “a one-family house detached from any other house,” a “boat, RV, van, etc.,” or “I do not have permanent housing.”

Perceived ease of access: Respondents were coded as perceiving easy access to cigarettes, vapes, marijuana, and alcohol if they responded “somewhat easy” or “very easy” (as opposed to “somewhat difficult” or “very difficult”) when asked, “If you wanted to get the following products from a store, how easy or difficult would it be?” This coding scheme was also applied to responses to the same questions that were asked about access from the Internet or someone else.

Susceptible to future tobacco use (three-item measure): Response of “definitely yes,” “probably yes,” or “probably not” to all three of these questions: “If one of your best friends offered you [a tobacco product never used by the respondent], would you use it?”; “Do you

think you will try [a tobacco product never used by the respondent] soon?"; and "Do you think you will use [a tobacco product never used by the respondent] in the next year?"

Not susceptible to future tobacco use (three-item measure): Response of "definitely not" to all three of these questions "If one of your best friends offered you [a tobacco product never used by the respondent], would you use it?"; "Do you think you will try [a tobacco product never used by the respondent] soon?"; and "Do you think you will use [a tobacco product never used by the respondent] in the next year?"

APPENDIX B – Survey Methodology of 2022 California Youth Tobacco Survey

Survey Administration

The California Youth Tobacco Survey (CYTS), formerly the California Student Tobacco Survey (CSTS), was conducted every 2 years between 2001 and 2020, excluding a break in 2013–2014. From 2001 through 2012, WestEd conducted CSTS. Between 2015 and 2020, the University of California, San Diego, conducted CSTS. In 2022, RTI International conducted the first annual data collection for CYTS. Starting in 2022, CYTS will be conducted annually. Over the next four data collections, the focus of Years 1 and 3 of data collection (2022 and 2024) will be to produce state-level estimates for all captured types of tobacco use. For Years 2 and 4 of data collection (2023 and 2025), the focus will be on producing both state- and county-level estimates of tobacco use. The main goal of the survey is to obtain statewide prevalence estimates for various tobacco products used by middle and high school respondents in California. The survey samples respondents from 8th, 10th, and 12th grades, similar to the well-known Monitoring the Future Survey. However, CYTS focuses mainly on high school respondents, with 8th-grade respondents sampled in smaller numbers. This appendix provides a brief overview of survey methodology for the 2022 CYTS. Additional detail on survey methods can be found in the *Technical Report on Analytic Methods and Approaches Used in the California Youth Tobacco Survey 2022* by Dutra et al.¹⁵

Sampling Strategy

We used a probability-based study design to produce a set of respondents that would be representative of California’s racially, ethnically, culturally, and geographically diverse respondent population. Oversampling was used to increase the number of responding African American or Black and private school respondents and to control the number of 8th-, 10th-, and 12th-grade respondents in the sample. The 2022 CYTS was conducted to provide stable state prevalence rates using stratified random sampling and proper weighting. The study design does not allow for county- or district-level analyses since most have an insufficient sample size to provide stable estimates. Future surveys will use sampling methodology that attempts to produce both state- and county-level estimates.

The sampling methodology for the 2022 CYTS is based on procedures developed by the Centers for Disease Control and Prevention (CDC) for the Youth Risk Behavior Survey and state Youth Tobacco Surveys. The sampling approach was adapted from the Youth Tobacco Survey Methodology Report prepared for the CDC Office on Smoking and Health.¹⁶ The sampling

¹⁵ Dutra, L. M., Ingold-Smith, M., Rotermund, S., & Levine, B. (2022). *Technical report for the California Youth Tobacco Survey 2022*. RTI International.

¹⁶ Office on Smoking and Health. (2018). *State Youth Tobacco Survey methodology report*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

methodology used for the 2022 CYTS and the sampling methodology applied to the 2019–2020 California Respondent Tobacco Survey is more similar than different.

Participation

To promote participation in CYTS, schools were given a \$500 gift card for administering the survey. Teachers primarily acted as proctors for the survey. In some cases, other school staff proctored. Proctors were provided with directions for administering the survey. RTI staff were available to answer questions from proctors.

The 2022 CYTS was administered online during the school day. The online survey included programmed skip logic to reduce respondent burden and took a median of 18.0 minutes to complete. A few questions in the survey were mandatory; these asked about respondents' willingness to participate in the survey and grade level. The remaining survey questions were not mandatory, although a message appeared if the question was unanswered. The respondent could move forward and skip the question after encountering the message.

Respondent participation was voluntary and anonymous. Consent procedures were consistent with school district guidelines. With approval of the institutional review board, we used passive consent for all schools. Parent consent forms were distributed to respondents (to take home) 1 week before the survey. Forms were available in Spanish and additional languages, as needed. Respondents were also asked to give their assent to participate in the survey.

Survey Sample of 2022 CYTS

Table 69 provides information about the number of schools and respondents who participated in the 2022 survey for middle and high school respondents. The sampling frame included 155 schools, five of which were deemed ineligible, and 96 of which fielded the survey (64.0% school response rate). Of the 16,405 respondents in the sampling frame, 13,505 started the survey (74.8%), and 12,885 consented to participate (78.5% respondent response rate). After dropping respondents who completed less than 50% of the survey and those that provided low-quality responses, the analytic sample included 11,545 responses (70.4% respondent response rate). Tenth and 12th grades were considered high school and 8th grade was considered middle school.

Table 69. Numbers of schools and respondents, middle school vs. high school, participating in 2022 CYTS

	Middle school only (8th grade)	High school only (10th and 12th grades)	Middle and high school (8th, 10th, and 12th grades)	Total
Number of schools	23	60	13	97
Number of respondents	2,636	8,909	N/A	11,545*

* Only includes respondents in the analytic sample (who consented to participate in the survey and had valid responses).

Survey Content

The survey was designed to assess the use of, knowledge of, and attitudes toward cigarettes and emerging tobacco products (e.g., vapes, cigarettes, little cigars or cigarillos). It also included questions about the use of and attitudes toward marijuana and alcohol. The survey contained 183 questions, including topics such as awareness of and use of different tobacco products, history and patterns of tobacco use, tobacco purchasing patterns, knowledge of and participation in school tobacco prevention or cessation programs, perceptions of tobacco use (i.e., social norms), awareness of advertising, and susceptibility to future tobacco use. The survey was available in English and Spanish, administered online, and used programmed skip logic to reduce respondent burden. Only a few items included the response option “prefer not to answer.”

As with previous years, the 2022 CYTS included images and product definitions with examples of common brands of tobacco products. We slightly modified many questions from the 2019–2020 CSTS to improve wording and/or make them more consistent with national methods of assessing tobacco-related behaviors. We added attention checks to the survey and questions about the honesty of responses to increase the ability to identify low-quality responses. We updated terminology for questions about vaping to reflect current terms used by youth to discuss these items. We also added items to expand the assessment of vaping and updated items based on trends in use (e.g., flavors and brands). In addition, we added questions about changes in vape use over the last year and sharing of vape products to capture changes in these behaviors during the COVID-19 pandemic. We also added an item about ever use of nicotine pouches given the increasing familiarity with these products observed in previous years of CSTS. In addition, we simplified items used to determine which tobacco product was used first to reduce respondent burden. To expand the inclusion of questions about social determinants of health, we added questions on type of residence (as an additional measure of socioeconomic status),¹⁷ exposure to secondhand smoke in multiunit housing,¹⁸ and experiences of discrimination.¹⁹

Analysis

The data is weighted. The statistician created the weights based on nonresponse probability (namely, differences between those who responded and those who did not) and the degree to which the sample reflects the demographic makeup of California. These weights enabled us to adjust analyses for nonresponse and to create accurate state and county estimates. The

¹⁷ U.S. Census Bureau. (2020, May 18). *2021 American Communities Survey: English questionnaire*. Retrieved from <https://www2.census.gov/programs-surveys/acs/methodology/questionnaires/2021/quest21.pdf>.

¹⁸ Hewett, M. J., Ortlan, W. H., Brock, B. E., & Heim, C. J. (2012). Secondhand smoke and smokefree policies in owner-occupied multi-unit housing. *American Journal of Preventive Medicine, 43*(5S3), S187–S196.

¹⁹ Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology, 2*(3), 335–351.

weighting procedure is described in the *Technical Report for the California Youth Tobacco Survey 2022*. This report includes weighted prevalence estimates with 95% confidence intervals.

Due to significant changes made to the survey in 2022 (e.g., annual, state-level sample without county subsamples; updated sampling plan; updated survey instrument; inclusion of private schools and virtual schools) and the effect of the COVID-19 pandemic on surveys, 2022 CYTS data should not be compared with 2019–2020 CSTS data.

Race/Ethnicity

To measure the ability of the 2022 CYTS to sample the racial/ethnic makeup of the State of California, we compared the racial/ethnic makeup of the CYTS sample to the corresponding race/ethnicity data provided by the California Department of Education (CDE). Race/ethnicity categories of CYTS are similar to those used by CDE.

In CYTS, the racial/ethnic background of respondents was determined using two primary questions. The first asked about Hispanic or Latino/Latina origin (i.e., ethnicity) and the second asked respondents to indicate how they describe themselves (i.e., race) by marking all that apply: African American or Black, American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, White, or Other. The “other” category included a text box for entering a free-text response. We imputed race using respondents’ free-text responses, based on the U.S. Census’s definition of which groups fall into each racial category.

We matched categories used by CDE, with one exception—CDE did not include the category non-Hispanic other race. In addition, because CDE does not provide race/ethnicity information for private school respondents, we were only able to compare race/ethnicity data for public school respondents sampled in the 2022 CYTS. Table 70 lists the categories provided by CDE and the corresponding categories for the 2022 CYTS, when available (with the exception of non-Hispanic other race).

Table 70. Percentage of race/ethnicity categories in CYTS and CDE enrollment data

Control of school	Race/ethnicity category	CDE totals		CYTS respondents	
		N	(%)	N	(%)
Public	African American not Hispanic	71,677	5.2	526	4.9
	American Indian or Alaska Native	6,759	0.5	32	0.3
	Asian*	132,765	9.6	602	5.6
	Filipino	37,108	2.7	207	1.9
	Hispanic or Latino	753,262	54.5	6,218	58.2
	Pacific Islander**	6,424	0.5	44	0.4
	White not Hispanic	314,897	22.8	2,029	19.0
	Two or more races not Hispanic	48,827	3.5	777	7.3
	Not reported or other race,*** not Hispanic	10,276	0.7	245	2.3
	Total	1,381,996	100.0	10,680	100.0
Private	African American not Hispanic	N/A	N/A	39	4.5
	American Indian or Alaska Native	N/A	N/A	3	0.4
	Asian*	N/A	N/A	97	11.2
	Filipino	N/A	N/A	25	2.9
	Hispanic or Latino	N/A	N/A	257	29.7
	Pacific Islander**	N/A	N/A	6	0.7
	White not Hispanic	N/A	N/A	338	39.1
	Two or more races not Hispanic	N/A	N/A	85	9.8
	Not reported or other race,*** not Hispanic	N/A	N/A	15	1.7
	Total	107,078	100.0	865	100.0
Combined	1,489,074		11,545		

Note. CDE = California Department of Education; CYTS = California Youth Tobacco Survey. CDE enrollment data were restricted to schools that were considered eligible to participate in CYTS. Race/ethnicity data are unweighted and should not be compared with weighted estimates throughout this report.

* Does not include respondents who identified as Filipino.

** Includes Pacific Islanders for CDE and Native Hawaiians or other Pacific Islanders for CYTS.

*** “Not reported or other race” is terminology from CDE. For the CYTS data in the table, this category only includes respondents who reported non-Hispanic other race (i.e., race not captured by the survey). For purposes of this table, these groups are considered equivalent, even though CYTS respondents who did not report their race or ethnicity are excluded from the table.

The percentage of each race/ethnicity was similar between CYTS and CDE enrollment data for all categories. In terms of differences, CYTS sampled slightly fewer non-Hispanic White and Asian respondents and slightly more Hispanic and non-Hispanic multiracial respondents than are reflected in the CDE figures. The estimates included are unweighted.

The method of classifying race/ethnicity that was used in the 2022 CYTS has limitations. To provide a greater understanding of the impact of CYTS’s classification of race/ethnicity, Table 71 compares how individuals were labeled using CYTS’s race/ethnicity definition and how they responded to individual questions about Hispanic ethnicity and race in the survey.

Table 71. Percentage of labeled and endorsed race/ethnicity

Race/ethnicity category labeled			Race/ethnicity category endorsed		
	N = 11,529 (%)			N = 11,545 (%)	
White	2,367	20.5	White	5,083	44.0
African American or Black	565	4.9	African American or Black	1,126	9.8
Hispanic	6,475	56.2	Hispanic	6,475	56.1
Asian	931	8.1	Asian	1,589	13.8
Other*	329	2.8	Other	4,142	35.9
Multiracial	862	7.5	American Indian or Alaska Native	629	5.4
			Native Hawaiian or other Pacific Islander	375	3.2
			Multiracial	—	—

Note. The percentage in endorsed does not add up to 100% because respondents could select more than one response. Race/ethnicity data are unweighted and should not be compared with weighted estimates throughout this report.

* Participants who reported being non-Hispanic and only one of the following races were combined into a category labeled “other” due to small sample sizes: American Indian or Native American ($n = 35$, 0.3%), Native Hawaiian or other Pacific Islander ($n = 50$, 0.4%), and a race not listed in the survey ($n = 329$, 2.1%).

Notably, CYTS assigns each respondent to one combined racial/ethnic category, while respondents can endorse Hispanic ethnicity or not and can endorse more than one response option for the question about race. For example, a large portion of respondents who endorsed White or a race not listed in the survey also reported being Hispanic. Due to small sample sizes, except for in Table 3, respondents who reported being American Indian or Alaska Native or Native Hawaiian or other Pacific Islander were combined with respondents who endorsed a race that was not listed in the survey.

One benefit of the categorization used by CYTS is that the racial/ethnic category of all individuals who endorse being Hispanic is Hispanic. This approach is helpful because of the number of respondents who identified as Hispanic but selected “other” race (35.9%) and provided free-text responses. Of note, most free-text responses indicated that respondents considered Hispanic to be their race as well as their ethnicity.