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Tobacco Product Harm Perceptions Among US Middle and High School Students, 2016–2020

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Abstract

Purpose: The aim of this study is to examine US youths' harm perceptions toward nondaily use of e-cigarettes, cigarettes, cigars, smokeless tobacco, and hookahs.

Methods: The nationally representative, cross-sectional National Youth Tobacco Survey annually assessed the following: "How much do you think people harm themselves when they [use tobacco products] some days but not every day?" Weighted estimates for 2020 were generated overall (grades 6–12) and by select demographics. Multivariable regression examined linear and quadratic changes during 2016–2020 (excluding cigars).

Results: In 2020, the prevalence of middle and high school students reporting "no" or "little" harm (vs. "some" or "a lot") was 20.1% for e-cigarettes, 17.4% for hookahs, 14.6% for cigars, 13.5% for smokeless tobacco, and 11.0% for cigarettes. During 2016–2020, perceptions of "no" or "little" harm decreased for e-cigarettes, increased for cigarettes and smokeless tobacco, and exhibited nonlinear changes for hookahs.

Discussion: Most youth are aware of tobacco product harms, but opportunities exist to educate youth about the harms of nondaily tobacco product use.

Keywords

Youth; Tobacco use; Harm perception

Tobacco product use among youth continues to pose a major public health challenge in the United States [1–4]. In 2020, an estimated 4.47 million US middle school (MS) and high school (HS) students (16.2%) reported current (past 30 days) use of any tobacco product [4]. Since 2014, nondaily e-cigarette use has been the predominant form of current tobacco

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product use reported among youth [4–7]. Among 3.6 million MS and HS students who reported current e-cigarette use in 2020, nondaily e-cigarette use was reported among 77.5% of HS users and 90.6% of MS users [7].

The continuous monitoring of youths' corresponding harm perceptions can inform ongoing tobacco prevention and control efforts. Notably, studies have demonstrated that lower levels of harm perceptions are associated with increased tobacco product susceptibility, initiation, and use [8–12]. Elevated harm perceptions toward nondaily use also are positively correlated with youth quit attempts and intentions to quit tobacco product use [13]. This study presents nationally representative estimates of harm perceptions toward nondaily tobacco product use among US MS and HS students in 2020 and determines how perceived harms have changed over a 5-year period (2016–2020).

Methods

Data

Data came from the National Youth Tobacco Survey (NYTS), a cross-sectional, self-administered survey of public and private school students in grades 6–12; analyses included annual data from 2016 to 2020 [14]. NYTS utilizes a stratified, three-stage cluster design, providing a nationally representative sample of US MS and HS students. The survey protocol was approved by Centers for Disease Control and Prevention's Institutional Review Board. Sample sizes (overall response rates) ranged from 14,531 students (43.6%) in 2020 to 20,675 students (71.6%) in 2016.

Measures

Harm perceptions of nondaily use of five tobacco products (e-cigarettes; cigarettes; cigars; smokeless tobacco [chewing tobacco, snuff, dip, snus, dissolvables]; and hookahs) were assessed separately by asking "How much do you think people harm themselves when they used [tobacco product] some days but not every day?" Response options included "no," "little," "some," and "a lot" of harm.

Analyses

For each tobacco product type assessed in 2020, weighted prevalence estimates of harm perception level with 95% confidence intervals (CI) were calculated overall and by sex, school level, race/ethnicity, the respondent's current use status of the tobacco product type, and any current tobacco use by a household member. Chi-squared tests ($p < .05$) indicated the presence of differences in harm perceptions by subgroup, and two-tailed t-tests ($p < .05$) indicated specific pairwise differences within each subgroup. In 2019, the NYTS transitioned from a paper-and-pencil to electronic mode of administration [14]. However, primary harm perception questions were framed consistently across years to facilitate trend analyses from 2016 to 2020. Orthogonal polynomial contrasts with logistic regression models adjusting for sex, school level, race/ethnicity, status of any current tobacco product use, and household member tobacco product use status were used to examine linear and quadratic trends in those reporting "no" or "little" harm ("no/little") versus "some" or "a lot" of harm ("some/a lot") during 2016–2020 ($p < .05$). Cigars were added in 2020

and excluded from trend analyses. Analyses were conducted using SAS-callable SUDAAN (version 11.0.3; RTI International, NC).

Results

In 2020, the prevalence of MS and HS students reporting “no/little” harm from nondaily tobacco use was 20.1% for e-cigarettes, 17.4% for hookahs, 14.6% for cigars, 13.5% for smokeless tobacco, and 11.0% for cigarettes. Overall estimates by individual harm perception level indicate further variation by demographic and tobacco product use characteristics (Table 1).

By school level, prevalence of perceiving “no” harm was higher among HS students compared to MS students for cigars (MS: 2.3%, HS: 3.5%) and hookahs (MS: 2.9%, HS: 4.2%). By race/ethnicity, perceptions of “no” harm were consistently higher among Hispanic students and non-Hispanic Black students compared to non-Hispanic White students across all tobacco product types. Furthermore, higher prevalence of reporting “no/little” harm was consistently identified among students who reported current use of the corresponding tobacco product assessed, compared to those who did not. A higher prevalence of “little” harm and lower prevalence of “a lot” of harm was consistently reported across all tobacco products among students who lived with someone currently using tobacco, compared to those who did not.

During 2016−2020, the prevalence of those reporting “no/little” harm significantly declined nonlinearly for e-cigarettes (linear and quadratic trend; $p < .05$) (Figure 1). A significant nonlinear increase in “no/little” harm was observed for cigarettes and smokeless tobacco products (linear and quadratic trend; $p < .05$). Finally, a significant nonlinear change was observed for hookahs (quadratic trend only, $p < .05$).

Discussion

In 2020, perceptions of “no/little” harm from nondaily tobacco product use ranged from 11.0% (cigarettes) to 20.1% (e-cigarettes), reinforcing that most US MS and HS students perceive nondaily use of tobacco products to be harmful. However, harm perceptions varied with product type, both by demographic subgroup and during 2016–2020 overall.

The general decrease in low harm perceptions for e-cigarettes identified here and in other studies among US youth [15] align with the launch of multifaceted interventions including national education campaigns and resources with e-cigarette specific messaging [2,3,16,17]. Additionally, other public health events and initiatives, such as those in response to the multistate outbreak of e-cigarette or vaping product-use associated lung injury (EVALI) during August 2019 to January 2020, may have influenced e-cigarette harm perceptions on a national scale[18]. Sustained efforts utilizing socially, culturally, and linguistically inclusive communication approaches can be applied for other tobacco products for which youth disproportionately indicate increased or unchanged perceptions of low harm. For example, perceptions of “no/little” harm increased for cigarettes (9.7%–11%) and smokeless tobacco (12.0%–13.5%) during 2016–2020 among US MS and HS students. Additional research and monitoring of youths’ perceptions of harm in conjunction with their tobacco use behaviors

are warranted, particularly as new tobacco products such as nicotine pouches and synthetic nicotine products enter the US market [19–21].

These findings are subject to at least three limitations. First, the findings may not be generalizable to youths who are homeschooled, dropped out of school, in detention centers, or enrolled in alternative schools. Second, all data were self-reported. Third, the data collection period for 2020 was truncated due to the COVID-19 pandemic, resulting in a lower school participation rate compared with other assessed NYTS cycles [14].

During 2016–2020, low harm perceptions among MS and HS students decreased for e-cigarettes. In contrast, low harm perceptions increased for cigarettes and smokeless tobacco products. As youth use of any tobacco product is unsafe [1–3], opportunities exist to increase youths' harm awareness which may help reduce youth use.

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IMPLICATIONS AND CONTRIBUTION

During 2016–2020, perceptions of “no” or “little” harm for nondaily e-cigarette use declined. In 2020, these perceptions ranged from 1 in 10 US youth for cigarettes, to 2 in 10 US youth for e-cigarettes. Tailored youth education efforts across multiple tobacco product types may further reduce low harm perceptions.

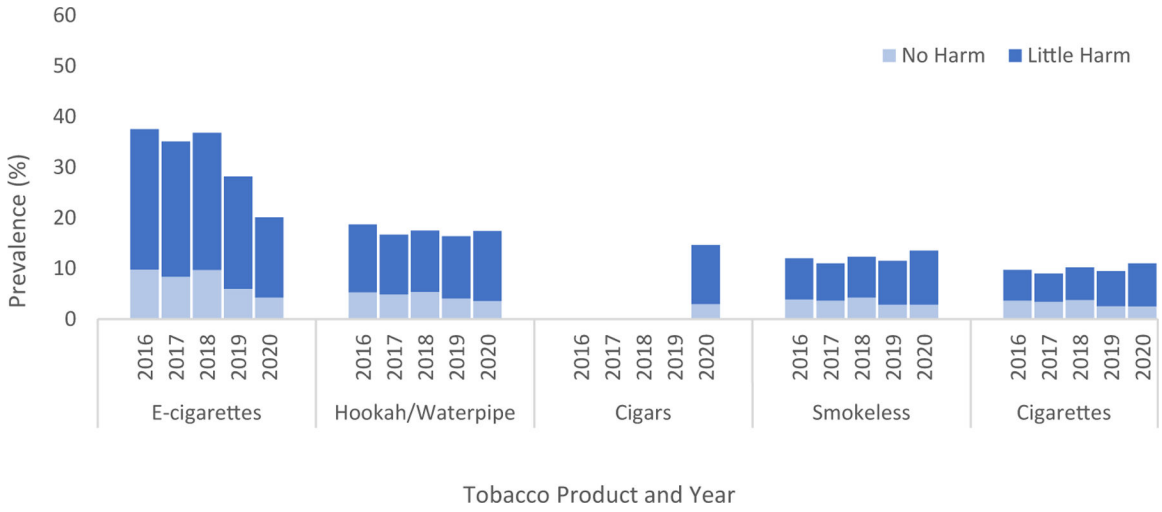

Figure 1.

Prevalence of US youth reporting "no" or "little" harm perceived from nondaily tobacco product use, by tobacco product—National Youth Tobacco Survey, 2016–2020.[a,b,c]

[a]Respondents were asked the following separate questions: "How much do you think people harm themselves when they [use e-cigarettes; smoke cigarettes; smoke cigars; use chewing tobacco, snuff, dip, snus, or dissolvable tobacco products; smoke tobacco in a hookah or waterpipe] some days but not every day?" Responses for each of the five products assessed included no harm, little harm, some harm, and a lot of harm. Wording of dissolvable tobacco products in the assessment of harm perceptions toward smokeless tobacco products was explicitly included in 2018. Harm perceptions for cigars were newly assessed in 2020.

[b]Linear and quadratic changes in harm perceptions (2016–2020) were assessed for all tobacco products (except cigars) using multivariable logistic regression adjusting for sex, race, school level, and any tobacco product use by others in the home. During 2016–2020, combined perceptions of "no harm" or "little harm" for nondaily e-cigarette use exhibited a significant nonlinear decrease ($p < .05$). Harm perceptions for nondaily cigarette smoking and smokeless tobacco use exhibited significant ($p < .05$) nonlinear increases, respectively. Harm perceptions for nondaily hookah smoking exhibited a significant ($p < .05$) nonlinear change.

[c]In 2019, NYTS survey administration transitioned from paper-and-pencil to an electronic mode of administration. However, measures of harm perception tobacco products were consistent overall across years to facilitate trend analyses from 2016 to 2020.

Table 1

Prevalence and correlates of harm perceptions toward intermittent tobacco product use among US youth, by tobacco product—National Youth Tobacco Survey, 2020

Product(s) and characteristics	n (unweighted)	Weighted % (95% CI)				*p*-value (chi-squared)
		Harm perceptions[a]				
		No harm	Little harm	Some harm	A lot of harm	
e-Cigarettes						
Overall	14,283	4.3 (3.7–5.0)	15.8 (14.7–16.9)	39.2 (38.0–40.5)	40.7 (39.1–42.3)	–
School level						
Middle school	6,946	3.8 (3.0–5.0)	13.2 (11.9–14.7)[b]	36.9 (35.0–38.9)[b]	46.0 (43.7–48.3)[b]	<.001
High school	7,307	4.6 (3.9–5.5)	17.8 (16.2–19.5)[b]	41.0 (39.5–42.6)[b]	36.5 (34.7–38.5)[b]	
Sex						
Male	7,012	5.6 (4.9–6.5)[c]	18.2 (16.9–19.7)[c]	37.9 (36.2–39.6)[c]	38.3 (36.5–40.0)[c]	<.001
Female	7,235	3.0 (2.4–3.7)[c]	13.2 (12.1–14.5)[c]	40.7 (39.2–42.3)[c]	43.1 (40.9–45.3)[c]	
Race/ethnicity						
Non-Hispanic White	6,999	3.6 (2.9–4.5)[d]	16.2 (15.0–17.4)[d]	40.2 (38.5–41.8)[d]	40.1 (38.0–42.2)[d]	<.001
Non-Hispanic Black	1,570	6.1 (4.5–8.2)[d]	13.7 (11.6–16.2)[d]	34.3 (31.6–37.1)[d]	45.9 (42.1–49.6)[d]	
Hispanic[e]	4,241	5.4 (4.3–6.7)[d]	16.6 (14.6–18.7)	40.6 (37.9–43.3)[d]	37.5 (35.3–39.7)[d]	
Non-Hispanic Other	1,128	_[f]	14.7 (11.0–19.5)	36.3 (32.3–40.5)[d]	46.1 (39.3–52.9)[d]	
Current (past 30 days) e-cigarette use[g]						
Yes	1,667	11.1 (9.3–13.2)[h]	32.5 (30.0–35.1)[h]	38.1 (34.8–41.4)	18.4 (15.8–21.3)[h]	<.001
No	12,583	3.3 (2.8–3.9)[h]	13.3 (12.4–14.3)[h]	39.4 (38.2–40.6)	43.9 (42.5–45.4)[h]	
Current any tobacco product use among household members[i]						
Yes	4,901	5.3 (4.6–6.1)[j]	21.3 (20.0–22.7)[j]	38.5 (36.8–40.2)	34.9 (32.9–37.0)[j]	<.001
No	9,030	3.6 (2.9–4.4)[j]	12.7 (11.6–13.9)[j]	39.6 (38.1–41.1)	44.0 (42.2–45.9)[j]	
Cigarettes						
Overall	14,363	2.5 (2.0–3.1)	8.5 (7.7–9.4)	40.4 (39.1–41.7)	48.6 (47.2–50.0)	–
School level						

Product(s) and characteristics	n (unweighted)	Weighted % (95% CI)				*p*-value (chi-squared)
		Harm perceptions[a]				
		No harm	Little harm	Some harm	A lot of harm	
Middle school	7,053	2.1 (1.5–2.9)	7.4 (6.4–8.6)[b]	38.2 (36.2–40.1)[b]	52.4 (50.4–54.3)[b]	.003
High school	7,274	2.8 (2.3–3.5)	9.4 (8.3–10.6)[b]	42.1 (40.1–44.1)[b]	45.7 (43.6–47.9)[b]	
Sex						
Male	7,020	2.8 (2.3–3.5)[c]	9.3 (8.2–10.6)[c]	39.9 (38.3–41.6)	47.9 (46.3–49.5)	.002
Female	1,581	2.1 (1.5–2.9)[c]	7.7 (6.8–8.7)[c]	40.9 (39.3–42.6)	49.3 (47.4–51.1)	
Race/ethnicity						
Non-Hispanic White	1,133	1.5 (1.2–2.0)[k]	8.5 (7.5–9.7)[k]	42.2 (40.4–44.0)[k]	47.7 (45.8–49.7)[k]	<.001
Non-Hispanic Black	1,581	4.7 (2.8–7.6)[k]	6.4 (4.9–8.2)[k]	32.3 (29.7–35.0)[k]	56.7 (52.7–60.6)[k]	
Hispanic[e]	6,972	3.5 (2.7–4.7)[k]	10.2 (9.2–11.2)[k]	40.0 (37.6–42.5)[k]	46.3 (43.7–48.9)[k]	
Non-Hispanic Other	7,358	_[f]	6.3 (4.6–8.8)[k]	43.2 (39.1–47.3)[k]	48.7 (44.6–52.8)[k]	
Current (past 30 days) cigarette smoking[g]						
Yes	429	10.7 (7.7–14.5)[h]	23.7 (19.5–28.4)[h]	33.3 (27.9–39.2)[h]	32.3 (26.5–38.8)[h]	<.001
No	13,911	2.2 (1.7–2.8)[h]	8.0 (7.3–8.8)[h]	40.7 (39.3–42.1)[h]	49.1 (47.8–50.5)[h]	
Current any tobacco product use among household members[i]						
Yes	4,921	2.6 (2.0–3.4)	11.3 (10.2–12.5)[j]	42.1 (40.0–44.2)	44.0 (42.2–45.8)[j]	<.001
No	9,063	2.3 (1.7–3.0)	6.9 (6.0–7.8)[j]	39.8 (38.2–41.4)	51.1 (49.4–52.7)[j]	
Cigars						
Overall	14,255	3.0 (2.4–3.6)	11.6 (10.9–12.5)	42.7 (41.6–43.8)	42.7 (41.3–44.1)	–
School level						
Middle school	6,992	2.3 (1.7–3.1)[b]	9.7 (8.8–10.7)[b]	40.0 (38.5–41.5)[b]	48.0 (46.3–49.7)[b]	<.001
High school	7,228	3.5 (2.9–4.2)[b]	13.2 (12.0–14.4)[b]	44.8 (43.4–46.3)[b]	38.5 (36.9–40.2)[b]	
Sex						
Male	6,984	3.6 (3.0–4.3)[c]	13.5 (12.5–14.7)[c]	41.3 (39.9–42.7)[c]	41.6 (40.1–43.0)[c]	<.001
Female	1,570	2.3 (1.8–3.0)[c]	9.7 (8.7–10.9)[c]	44.2 (42.6–45.8)[c]	43.8 (41.8–45.8)[c]	
Race/ethnicity						
Non-Hispanic White	1,128	2.0 (1.6–2.5)[l]	12.6 (11.4–13.9)[l]	44.4 (42.9–45.9)[l]	41.0 (38.9–43.1)[l]	<.001

Product(s) and characteristics	n (unweighted)	Weighted % (95% CI)				*p*-value (chi-squared)
		Harm perceptions[a]				
		No harm	Little harm	Some harm	A lot of harm	
Non-Hispanic Black	1,570	6.2 (4.2–8.9)[l]	10.8 (8.7–13.2)[l]	37.8 (34.0–41.7)[l]	45.3 (41.5–49.2)[l]	
Hispanic[e]	6,925	3.7 (3.0–4.7)[l]	11.8 (10.5–13.3)[l]	41.9 (39.7–44.1)	42.6 (40.3–44.9)	
Non-Hispanic Other	7,300	1.8 (.7–4.2)[l]	6.3 (4.5–8.8)[l]	43.6 (39.3–48.1)[l]	48.3 (43.8–52.8)[l]	
Current (past 30 days) cigar smoking[g]						
Yes	431	14.4 (10.3–19.9)[h]	24.6 (20.7–29.0)[h]	34.3 (29.1–40.0)[h]	26.7 (21.8–32.1)[h]	<.001
No	13,805	2.6 (2.1–3.1)[h]	11.2 (10.5–12.0)[h]	43.0 (41.9–44.1)[h]	43.2 (41.8–44.6)[h]	
Current any tobacco product use among household members[i]						
Yes	4,887	3.3 (2.7–4.1)	14.2 (13.2–15.3)[j]	44.9 (43.3–46.5)[j]	37.6 (35.7–39.5)[j]	<.001
No	9,008	2.6 (2.0–3.3)	10.2 (9.4–11.1)[j]	41.9 (40.3–43.5)[j]	45.3 (43.4–47.3)[j]	
Smokeless tobacco (chewing tobacco, snuff, dip, snus, dissolvable)						
Overall	14,272	2.9 (2.5–3.5)	10.6 (9.6–11.6)	37.0 (35.9–38.2)	49.5 (47.7–51.2)	–
School level						
Middle school	7,006	2.5 (1.8–3.5)	10.8 (9.5–12.3)	36.2 (34.5–38.0)	50.4 (48.1–52.8)	.109
High school	7,232	3.2 (2.6–3.9)	10.4 (9.3–11.7)	37.6 (36.1–39.1)	48.8 (46.7–50.8)	
Sex						
Male	6,993	3.7 (3.1–4.4)[c]	12.0 (10.7–13.3)[c]	35.9 (34.4–37.4)	48.5 (46.7–50.2)	<.001
Female	1,576	2.1 (1.7–2.7)[c]	9.1 (8.1–10.3)[c]	38.3 (36.4–40.2)	50.5 (48.0–52.9)	
Race/ethnicity						
Non-Hispanic White	1,127	2.1 (1.7–2.7)[m]	11.9 (10.7–13.3)[m]	40.0 (38.2–41.7)[m]	46.0 (43.7–48.3)[m]	<.001
Non-Hispanic Black	1,576	4.5 (3.3–6.2)[m]	8.7 (7.2–10.4)[m]	28.2 (25.4–31.3)[m]	58.5 (55.5–61.5)[m]	
Hispanic[e]	6,930	4.0 (3.3–5.1)[m]	10.4 (9.0–12.0)[m]	35.8 (34.1–37.6)[m]	49.8 (47.8–51.8)[m]	
Non-Hispanic Other	7,311	_[f]	6.2 (4.5–8.6)[m]	34.8 (30.7–39.1)[m]	56.9 (51.8–61.9)[m]	
Current (past 30 days) smokeless tobacco use[g]						
Yes	261	19.8 (15.6–24.9)[h]	33.0 (26.3–40.4)[h]	37.3 (30.5–44.6)	9.9 (6.0–15.9)[h]	<.001
No	14,001	2.6 (2.2–3.1)[h]	10.1 (9.2–11.1)[h]	37.0 (35.8–38.3)	50.2 (48.5–51.9)[h]	
Current any tobacco product use among household members[i]						

Product(s) and characteristics	n (unweighted)	Weighted % (95% CI)				*p*-value (chi-squared)
		Harm perceptions[a]				
		No harm	Little harm	Some harm	A lot of harm	
Yes	4,904	3.4 (2.8–4.1)[j]	13.1 (11.7–14.6)[j]	39.4 (37.3–41.5)[j]	44.2 (41.9–46.4)[j]	<.001
No	9,017	2.6 (2.1–3.1)[j]	9.3 (8.3–10.4)[j]	36.0 (34.9–37.2)[j]	52.1 (50.3–53.9)[j]	
Hookahs or waterpipes						
Overall	14,219	3.6 (3.0–4.4)	13.8 (12.7–14.9)	40.7 (39.5–41.9)	41.9 (40.4–43.5)	–
School level						
Middle school	6,980	2.9 (2.0–4.1)[b]	10.0 (8.9–11.3)[b]	37.6 (36.0–39.2)[b]	49.5 (47.5–51.5)[b]	<.001
High school	7,205	4.2 (3.5–5.0)[b]	16.7 (15.5–17.9)[b]	43.1 (41.5–44.8)[b]	36.0 (34.5–37.6)[b]	
Sex						
Male	6,968	4.2 (3.5–5.0)[c]	14.5 (13.2–15.8)	39.6 (38.0–41.2)	41.7 (39.7–43.7)	.003
Female	1,562	3.0 (2.3–3.8)[c]	13.1 (11.9–14.5)	41.8 (40.1–43.6)	42.1 (40.0–44.2)	
Race/ethnicity						
Non-Hispanic White	1,124	2.6 (2.1–3.1)[n]	12.8 (11.5–14.2)[n]	43.3 (41.7–45.0)[n]	41.3 (39.1–43.5)	<.001
Non-Hispanic Black	1,562	6.0 (4.0–9.0)[n]	17.4 (14.8–20.3)[n]	33.3 (30.0–36.8)[n]	43.3 (39.8–46.8)	
Hispanic[e]	6,912	4.8 (3.8–6.0)[n]	14.8 (13.2–16.5)	39.5 (37.5–41.4)[n]	41.0 (38.9–43.2)	
Non-Hispanic Other	7,275	3.5 (2.0–6.0)	11.8 (8.5–16.2)[n]	39.9 (36.2–43.5)[n]	44.8 (38.2–51.6)	
Current (past 30 days) hookah or waterpipe smoking[g]						
Yes	255	18.2 (12.7–25.3)[h]	32.1 (25.1–39.2)[h]	29.8 (22.8–37.8)[h]	19.9 (14.4–27.2)[h]	<.001
No	13,955	3.3 (2.8–4.0)[h]	13.4 (12.3–14.5)[h]	40.9 (39.8–42.1)[h]	42.4 (40.8–44.0)[h]	
Current any tobacco product use among household members[i]						
Yes	4,883	4.2 (3.4–5.2)[j]	17.7 (16.0–19.5)[j]	42.2 (40.3–44.1)[j]	35.9 (34.2–37.7)[j]	<.001
No	8,999	3.2 (2.5–4.0)[j]	11.6 (10.6–12.7)[j]	39.9 (38.6–41.3)[j]	45.3 (43.4–47.1)[j]	

[a]Respondents were asked the following separate questions: “How much do you think people harm themselves when they [use e-cigarettes; smoke cigarettes; smoke cigars; use chewing tobacco, snuff, dip, snus, or dissolvable tobacco products; smoke tobacco in a hookah or waterpipe] some days but not every day?” Responses for each of the five products assessed included the following: no harm, little harm, some harm, and a lot of harm.

[b]Statistically significant pairwise *t*-test comparisons by school level ($p < .05$).

[c]Statistically significant pairwise *t*-test comparisons by sex ($p < .05$).

[d] For e-cigarettes, pairwise *t*-tests by race/ethnicity ($p < .05$) indicated statistically significant differences for "No harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students; "Little harm": non-Hispanic White and non-Hispanic Black students; "Some harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and non-Hispanic students of other races, non-Hispanic Black and Hispanic students; "A lot of harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and non-Hispanic students of other races, non-Hispanic Black and Hispanic students, Hispanic and non-Hispanic students of other races.

[e] Hispanic persons could be of any race. Persons of all other racial/ethnic groups were non-Hispanic.

[f] Data not shown due to relative standard error >30% or unweighted denominator <50.

[g] Current use of each respective tobacco product was defined as use on one or more days during the past 30 days. This was assessed separately for e-cigarettes, cigarettes, cigars, smokeless tobacco, and hookahs or waterpipes. Current smokeless tobacco product use included use of chewing tobacco, snuff, or dip; snus; or dissolvable tobacco.

[h] Statistically significant pairwise *t*-test comparisons by current use of corresponding tobacco product ($p < .05$).

[i] Respondents were asked, "Does anyone who lives with you now…?" and provided with the following response options: "smoke cigarettes"; "smoke cigars, cigarillos, or little cigars"; "use chewing tobacco, snuff, or dip"; "use e-cigarettes"; "smoke tobacco in a hookah or waterpipe"; "smoke pipes filled with tobacco (not hookah or water pipes)"; "snus"; "use dissolvable tobacco products"; "smoke bidis (small brown cigarettes wrapped in a leaf)"; "use heated tobacco products"; and "no one who lives with me now uses any form of tobacco." Those who selected any response other than "no one who lives with me now uses any form of tobacco" were considered to have a household member who uses tobacco.

[j] Statistically significant pairwise *t*-test comparisons by current any tobacco product use among household members ($p < .05$).

[k] For cigarettes, pairwise *t*-tests by race/ethnicity ($p < .05$) indicated statistically significant differences for "No harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students, non-Hispanic Black and non-Hispanic students of other races, Hispanic and non-Hispanic students of other races; "Little harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students, non-Hispanic Black and Hispanic students, Hispanic and non-Hispanic students of other races; "Some harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic Black and Hispanic students, non-Hispanic Black and non-Hispanic students of other races; "A lot of harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic Black and Hispanic students, non-Hispanic Black and non-Hispanic students of other races.

[l] For cigars, pairwise *t*-tests by race/ethnicity ($p < .05$) indicated statistically significant differences for "No harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students, non-Hispanic Black and Hispanic students, non-Hispanic Black and non-Hispanic students of other races, Hispanic and non-Hispanic students of other races; "Little harm": non-Hispanic White and non-Hispanic students of other races, non-Hispanic Black and Hispanic students, Hispanic and non-Hispanic students of other races; "Some harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic Black and non-Hispanic students of other races; "A lot of harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and non-Hispanic students of other races, Hispanic and non-Hispanic students of other races.

[m] For smokeless tobacco, pairwise *t*-tests by race/ethnicity ($p < .05$) indicated statistically significant differences for "No harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students; "Little harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and non-Hispanic students of other races, Hispanic and non-Hispanic students of other races; "Some harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students, non-Hispanic White and non-Hispanic students of other races, non-Hispanic Black and Hispanic students, non-Hispanic Black and non-Hispanic students of other races; "A lot of harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students, non-Hispanic White and non-Hispanic students of other races, non-Hispanic Black and Hispanic students, Hispanic and non-Hispanic students of other races.

[n] For hookahs, pairwise *t*-tests by race/ethnicity ($p < .05$) indicated statistically significant differences for "No harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students; "Little harm": non-Hispanic White and non-Hispanic Black students, Black and non-Hispanic students of other races; "Some harm": non-Hispanic White and non-Hispanic Black students, non-Hispanic White and Hispanic students, non-Hispanic Black and Hispanic students, non-Hispanic Black and non-Hispanic students of other races; "A lot of harm": none.

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