



## Introduction

- Nicotine, a prominent chemical within most e-cigarettes, has been linked with lung damage, respiratory disease, harm to brain development, and death. [1]
- In 2017, 11.7% of high schoolers reported monthly e-cigarette use. In 2018, the rate reached 20.8%, indicating a 78.0% increase within a single year and prompting the U.S. Surgeon General to officially declare e-cigarettes "...a youth epidemic." [2, 3]
- The rate of U.S. high school e-cigarette use decreased by 48.6% between 2019 (27.5%) and 2020 (19.5%). However, other studies found an increase in smoking between 2021 and 2022. [4, 3]
- Higher exposure to e-cigarette marketing is associated with greater use of e-cigarettes. [5] Higher adherence to the COVID-19 stay-at-home mandate was associated with lower use of e-cigarettes, particularly among the Black and Hispanic communities. [4]
- This study compared differences in e-cigarette advertisement exposure for blacks and Hispanic high school students before and after the COVID-19 stay-at-home mandate.

## Results

Table 1: Demographics Characteristics of Samples

Sex	2020 (n=4110)	2022 (n=7964)
Male	48.6%	50.3%
Female	51.3%	49.2%
Race	2020	2022
Black	26.4%	31.7%
Hispanic	73.6%	68.3%
Age	2020	2022
13	25.4%	20.7%
14	21.1%	21.5%
15	18.4%	22.4%
16	17.9%	18.3%
17	17.2%	17.2%
Grade	2020	2022
8 <sup>th</sup>	24.9%	20.4%
9 <sup>th</sup>	18.8%	23.7%
10 <sup>th</sup>	17.7%	19.4%
11 <sup>th</sup>	15.8%	15.9%
12 <sup>th</sup>	8.8%	7.9%
E-Cigarette Use	2020	2022
Never	72.6%	78.7%
Former	14.6%	11.2%
Current	12.6%	9.8%

## Results (cont.)

### Retail

- Hispanic students had greater odds of reporting e-cigarette ad exposure via retail stores (aOR, 1.18; 95% CI, 1.09 – 1.28) than Black students.

### TV

- Black students had greater odds of reporting e-cigarette ad exposure via TV (aOR, 1.26; 95% CI, 1.15 – 1.38) than Hispanic students.

### Press

- Black students had greater odds of reporting e-cigarette ad exposure via press (aOR, 1.14; 95% CI, 1.03 – 1.27) than Hispanic students.

## Discussion

- Study results revealed that all ad venues decreased in marketing exposure frequency. Potential causes of this trend include increases in general advertisement volume, successful anti-marketing policies, and high e-cigarette usage rates.
- Study results are consistent with previous research findings that suggest retail as the venue with the highest marketing exposure rate followed by the Internet.[6]
- The study suggested a significant association between e-cigarette smoking and e-cigarette marketing exposure.
- However, study results did differ from previous research findings through the prevalence rate, which decreased in 2022 (9.8%) in comparison to 2020 (12.6%). This was likely due to the lack of White participants, of whom make up the majority of smokers.[3]
- Study limitations: the 2020 NYTS consisted of limited data due to school closures. Comparing more years (2019 and 2021) better controls for Covid's potential impact. 2022 findings of e-cigarette marketing have yet to be published, preventing proper analysis of financial change between 2020 and 2022.

## Conclusion

- U.S. high school student exposure to e-cigarette product advertisements decreased after the COVID-19 stay-at-home mandate.
- Future research should examine federal policies to understand their impact on curbing e-cigarette marketing exposure.

## Methodology

### Design

- Cross-sectional study design

### Survey

- 2020 and 2022 National Youth Tobacco Survey (NYTS) data

### Inclusion Criteria

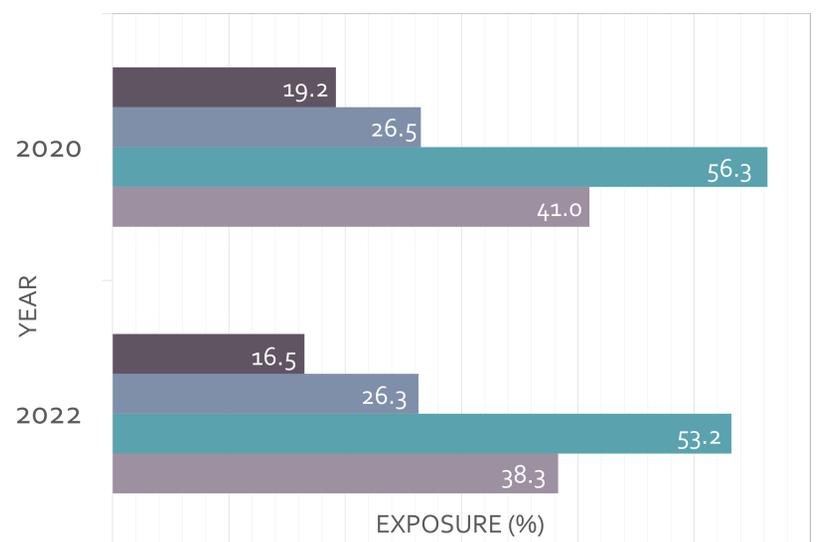
- Black/Hispanic, youth ages 13-17,
- United States, exposure to e-cigarette advertisements

### Analysis

- Microsoft Excel for descriptive statistics and SAS for Chi-Square test to assess difference between survey years

Chart 1: Differences in Marketing Exposure

■ Press ■ TV ■ Retail ■ Internet



	2022	2020	P-Value
Press	16.5	19.2	<.001
TV	26.3	26.5	<.001
Retail	53.2	56.3	<.001
Internet	38.3	41	<.001

Chart 1 shows an overall decrease in each marketing venue (Press, TV, Retail, and Internet) in 2022 compared with 2020. Press decreased by 2.7% (19.2% to 16.5%), TV decreased by .2% (26.5% to 26.3%), Retail decreased by 3.1% (56.3% to 53.2%), and Internet decreased by 2.7% (41.0% to 38.3%).

### References

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