



A big problem from a small device: A call for vaping education in Capital District schools

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Abstract

While the use of cigarettes is on the decline, e-cigarette products, which provide a nicotine high and a fruity flavor, are increasingly popular. "Vaping" is a common term among students for the use of such products. With the drastic increase in popularity, administrators are struggling to monitor the use of these easily-concealed products. Based on our knowledge of school policy changes in our region, we hypothesize local prevalence of use is higher than the national average and that education in our schools about the dangers of these products is lacking. Six Capital Region schools were surveyed to determine prevalence rates and trends. Preliminary data shows use in 9-12th graders at nearly 30% compared to the national average at 11.7% for 2017. Data was collected on health education, knowledge of risks and reasons for use; analysis is underway. We are hoping to assist schools in addressing this emerging epidemic.

Question

With the national average of teenagers using vaping products increasing every year, how does this value compare to that of the Capital District? Is there a lack of education regarding the dangers of these products and is this contributing to teen use?

Hypothesis

We hypothesize the use of vaping products in local schools will be higher than the national average and that the education of health risks associated with vaping is lacking in our local schools' curriculum.

Background & Methods

Background: Vaping is the action or practice of inhaling the vapor produced by an electronic cigarette or similar device. Like cigarettes, vaporizers contain harmful and addictive chemical such as nicotine. Nicotine is harmful to developing teenage brains and can impair the parts that control attention, memory, and learning.

The vaping industry has followed in the destructive footsteps of the cigarette industry in marketing products at teenagers. Vaping is marketed as a safer alternative to smoking and is hiding its harmfulness behind candy-like flavors.

Methods: An anonymous Google Forms survey was created and distributed to 7 Capital Region middle and high schools after approval was received from administration. Data was collected over 2 months and compiled for analysis. Interviews were conducted with school officials to fully understand the difficulty educators are currently facing.

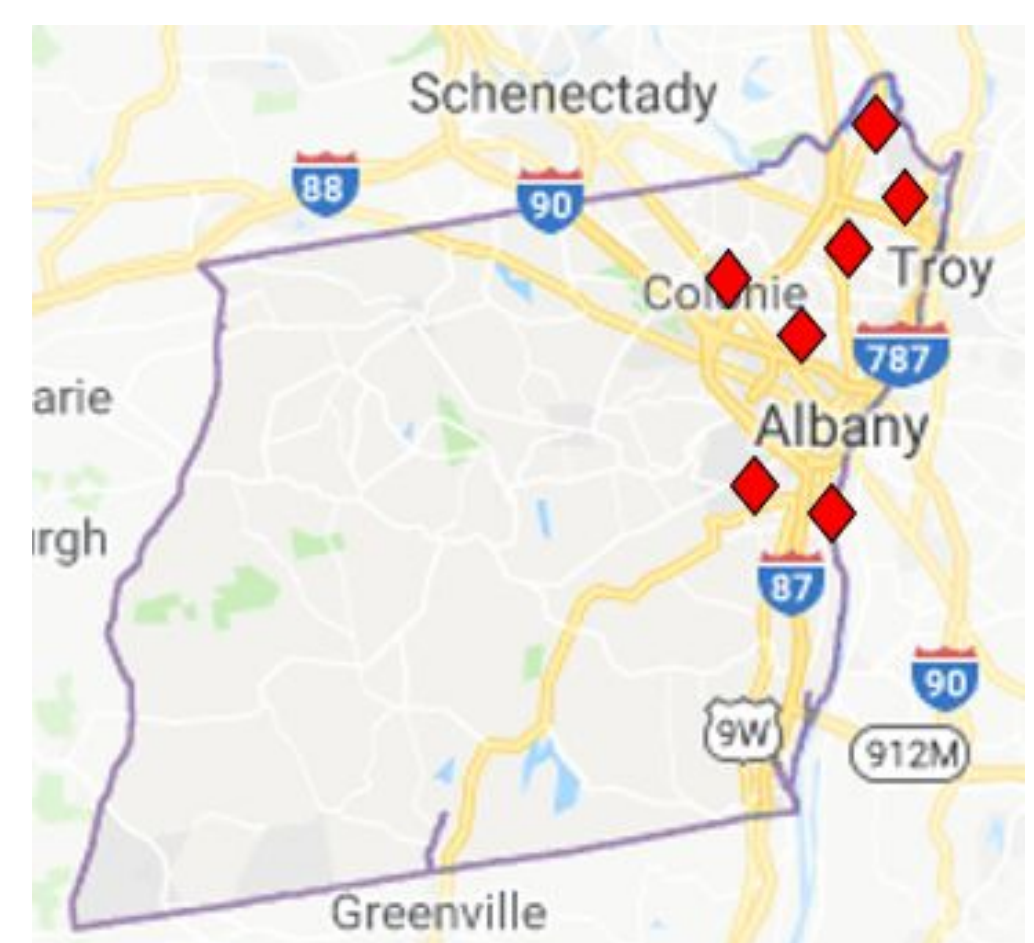


Figure 2. Demographics of participating school districts.



Figure 1. Vaping products come in multiple shapes, sizes, and flavors.

Results

Prevalence of Cigarette and Vape use Among Capital District Teens

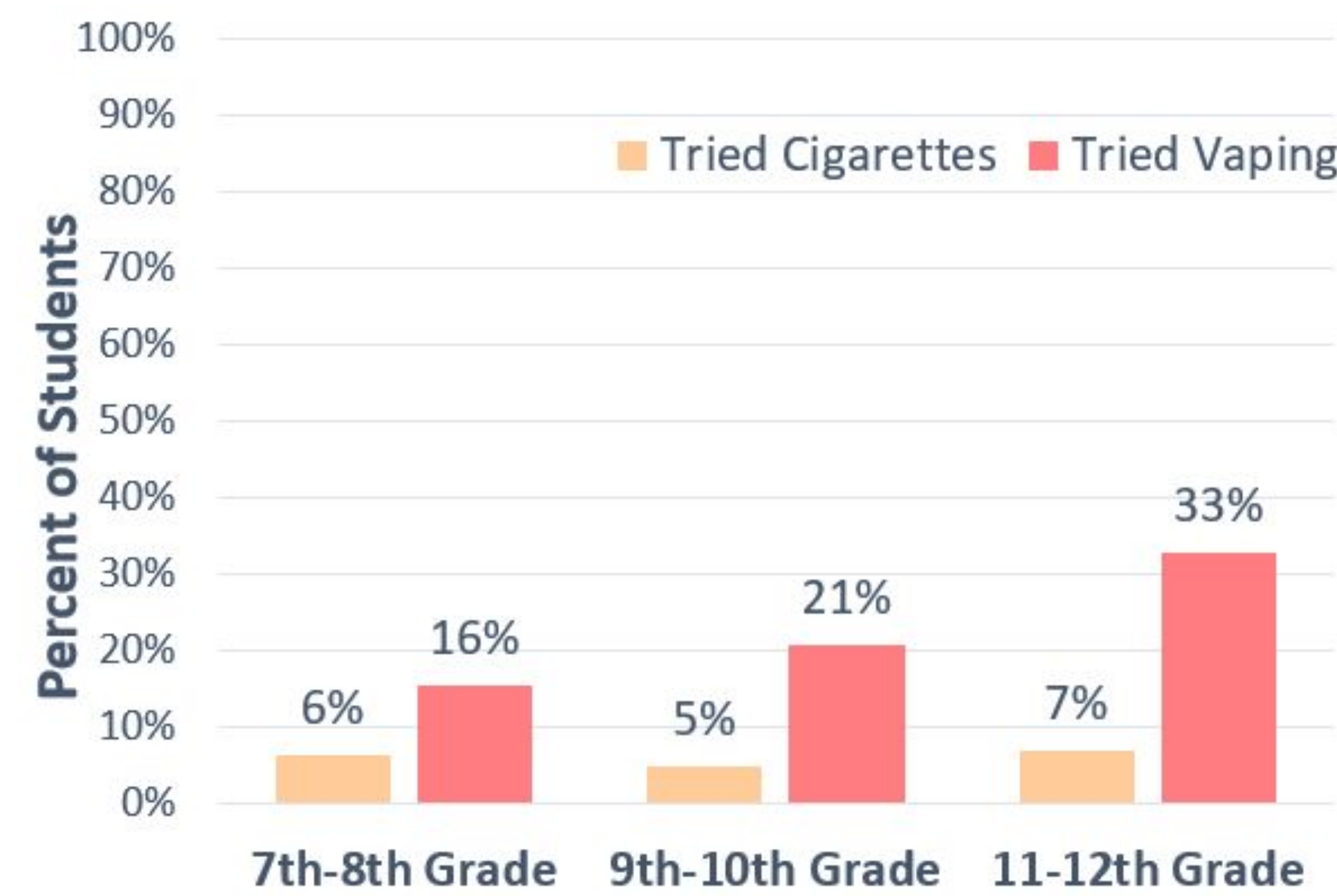


Figure 3. 2588 Capital District teens were surveyed on their use of cigarettes and vaping devices. Data shows the percent of students by grade level that have experimented with a cigarette or vaping product.

Capital District vs. National Vaping Statistics

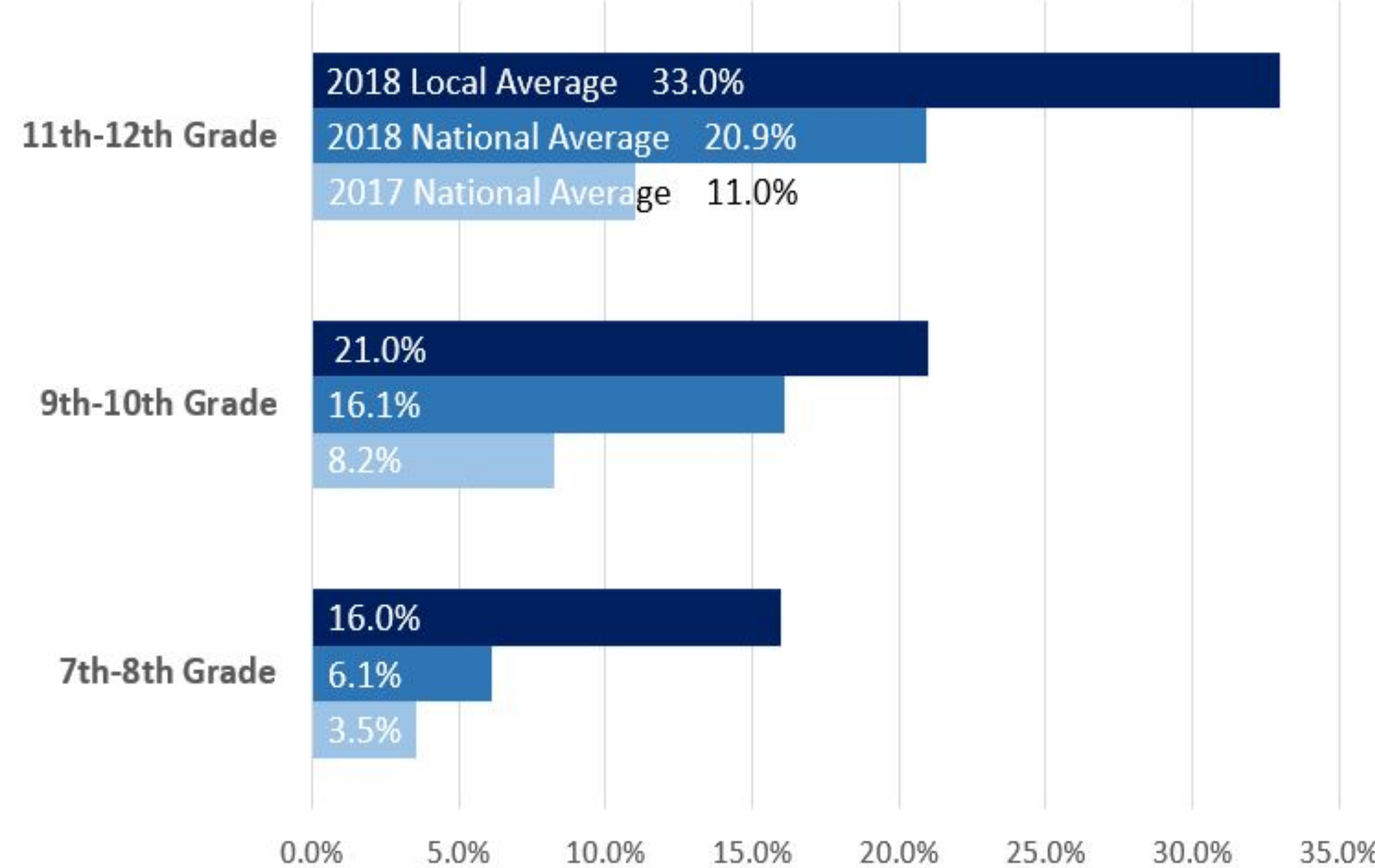


Figure 4. While the nationwide average for teens vaping is increasing each year, the prevalence in the Capital District is significantly higher than the national average. *National averages retrieved from CDC, 2018.

Vaping is Viewed as a Stress Reliever

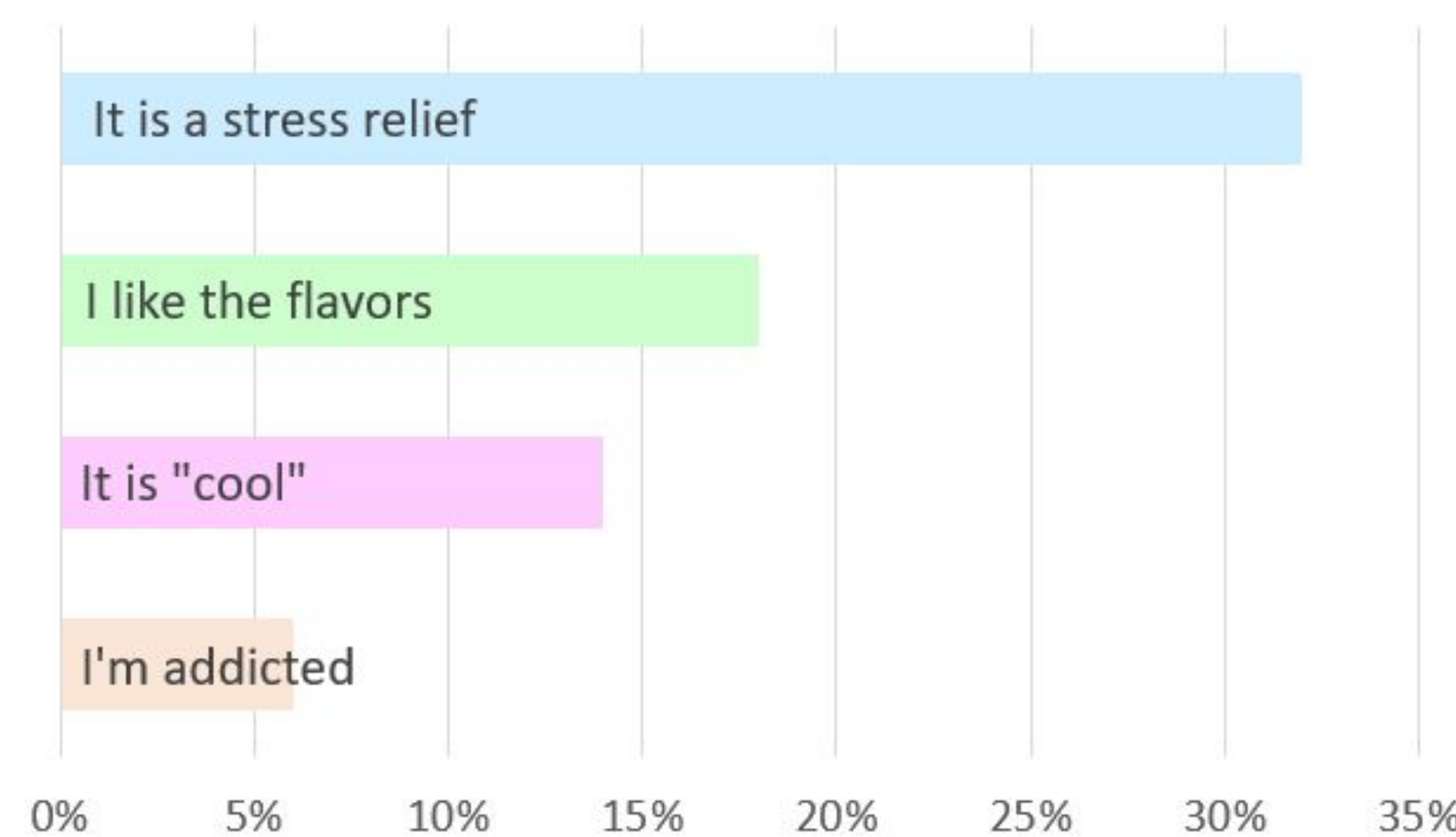


Figure 5. Of the subset of students that reported previous use of a vaping product, responses were collected, analyzed, grouped based on general theme, and ranked in order of prevalence.

Awareness of the Risk of Cigarettes vs. the Risks of Vaping Products

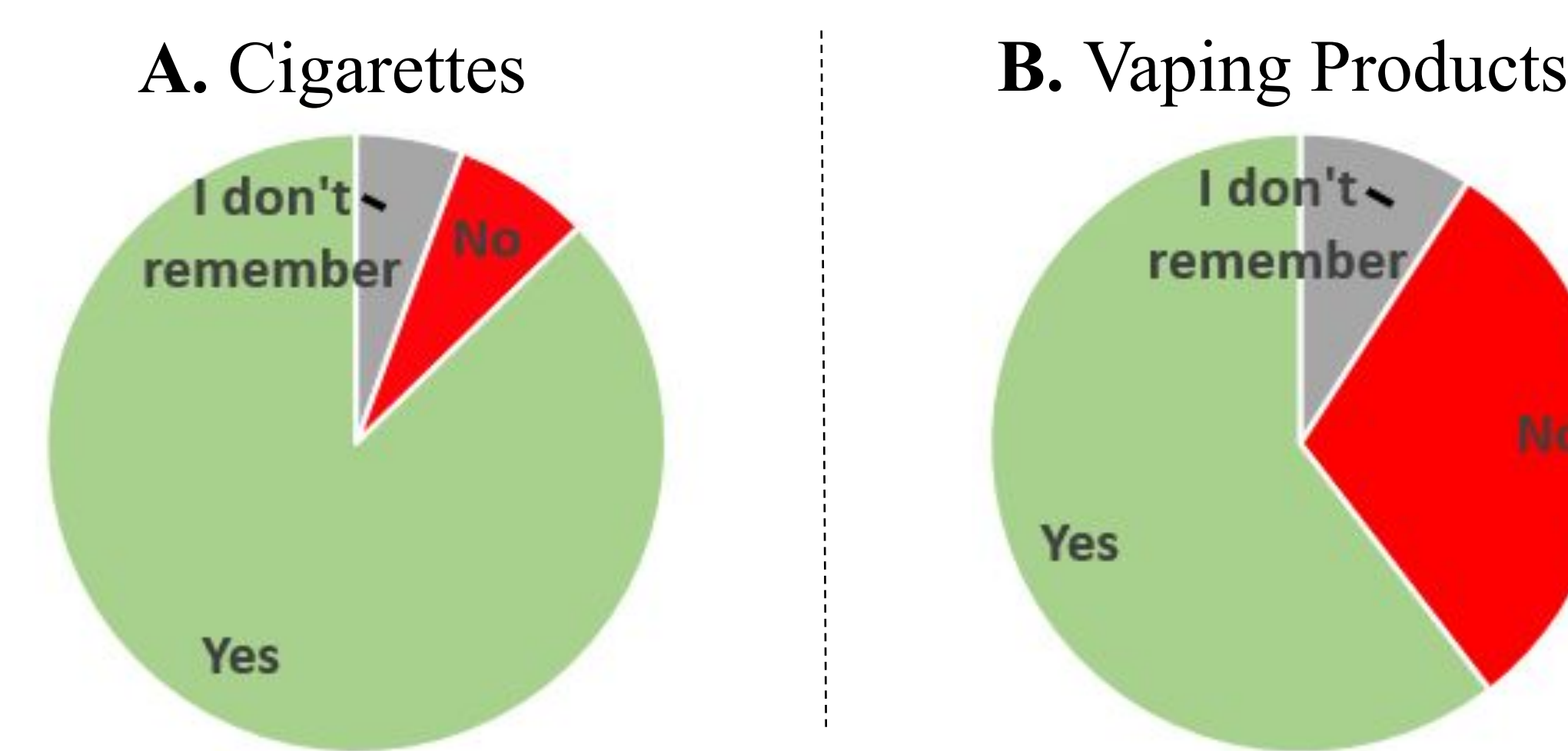


Figure 6. Students were asked to report whether or not they were aware of the health risks associated with cigarette (A) and vape (B) use. Over 20% more students claimed to be unaware of the risks associated with vaping over that of smoking.

How well are Students Taught the Risks?

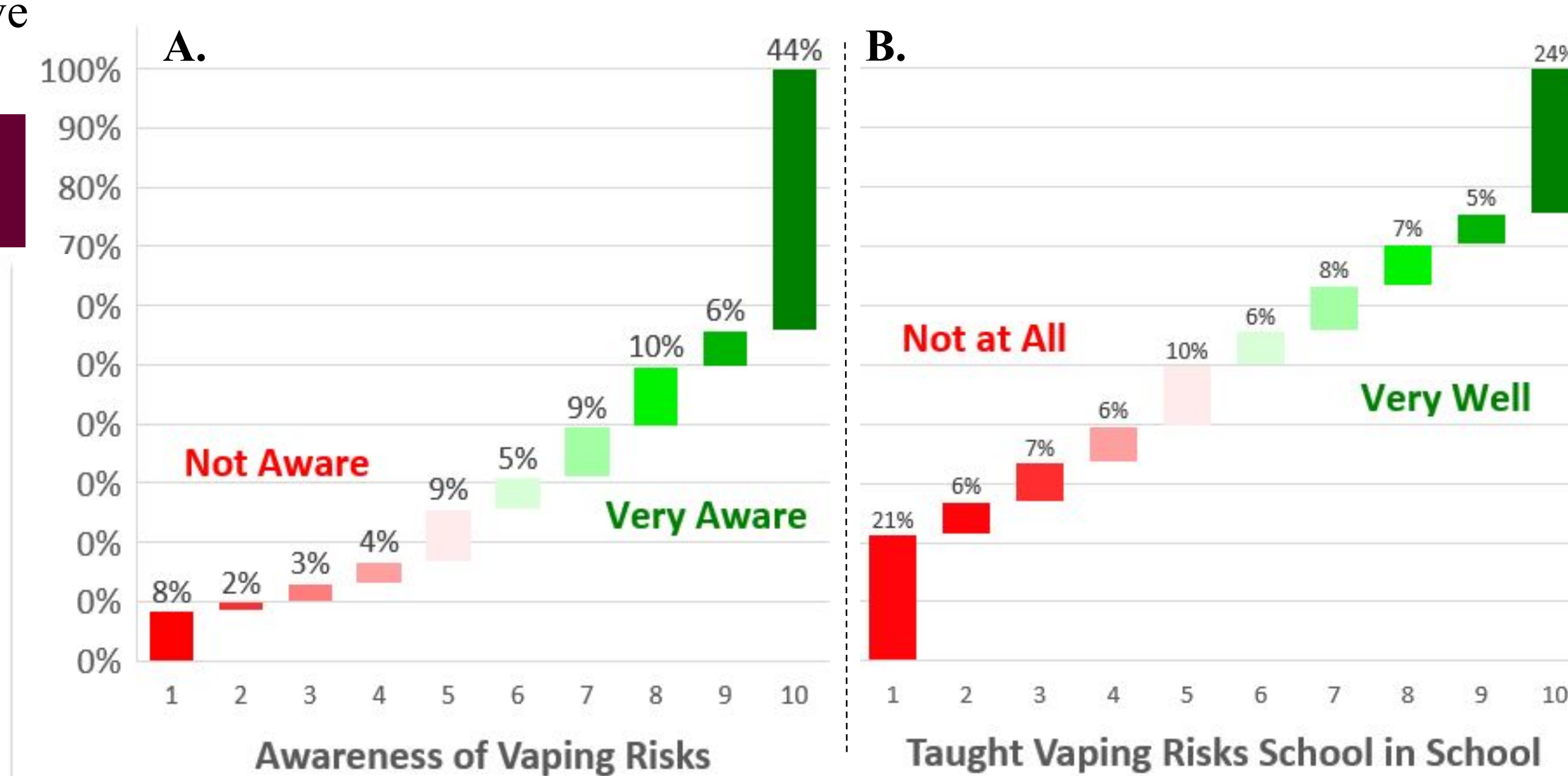


Figure 7. Awareness of vaping risks (A) and how well students are taught these risks in school (B) were assessed on a 1-10 scale to analyze the reliability in responses.

Student Reported Use on School Grounds

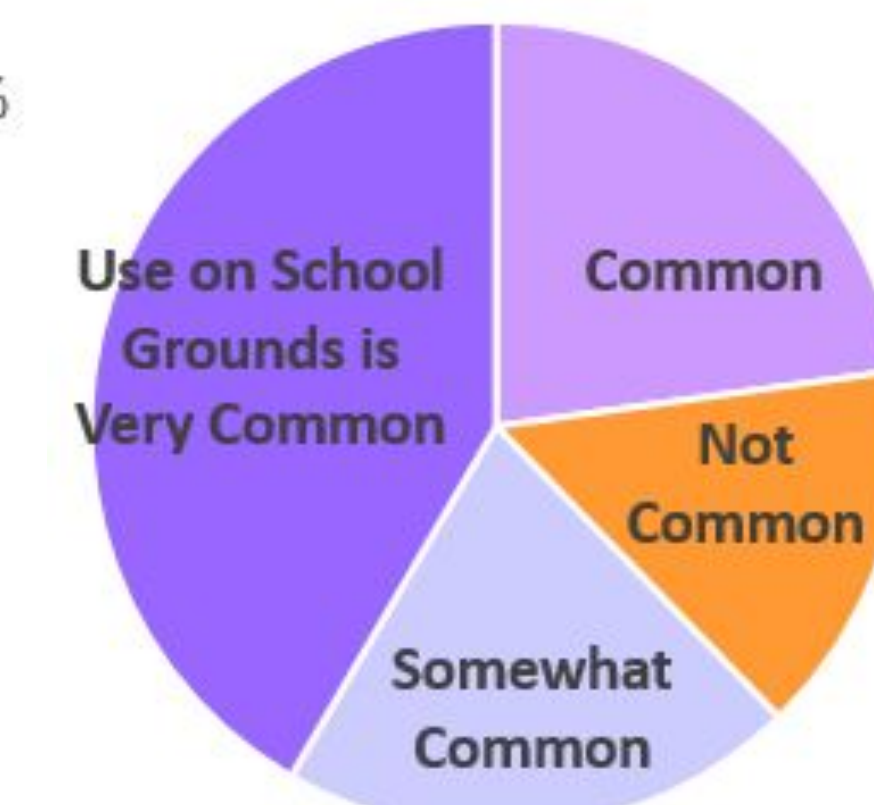


Figure 8. Question: How common do you think use of vaping products is on your school grounds?

Figure 9. Question: How many students have you seen vaping in the classroom?

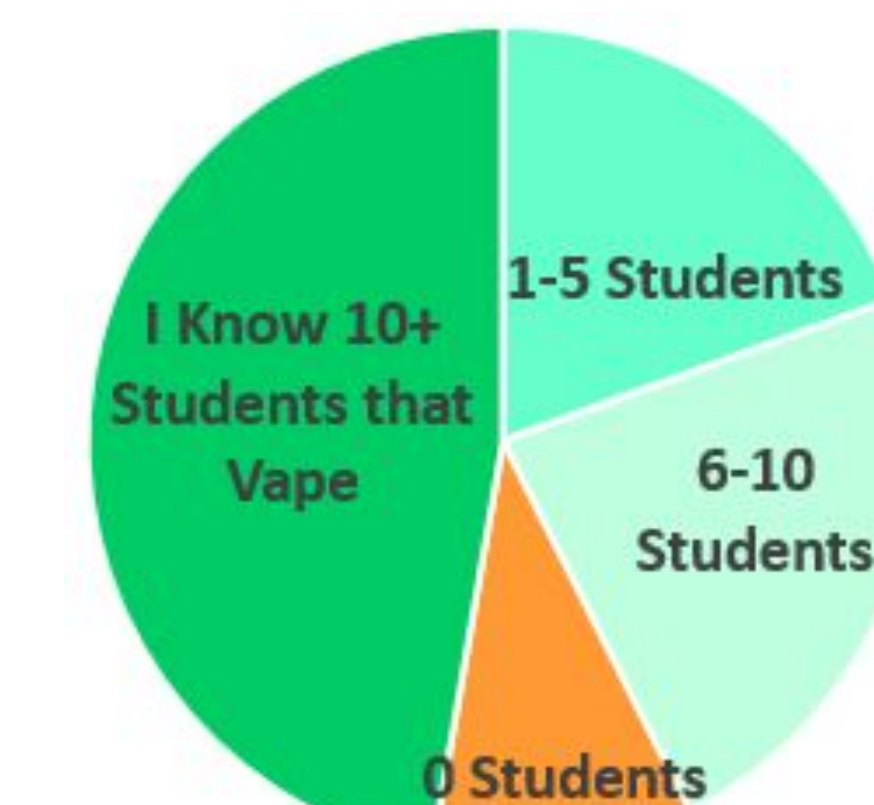


Figure 10. Question: How many students do you know that currently vape? 0 Students Seen Vaping in Class (40%), 1-2 Students (20%), 3-4 Students (20%), 5+ Students (20%).

Discussion

The 2018 Capital Region average for vaping among teens is 20% higher than the 2017 national average.

With national averages nearly doubling from 2017-2018, we predict that prevalence in the Capital Region in 2020 will be exponentially higher.

The primary cause for vaping among teens is stress relief.

With students feeling increasing amounts of stress in school, they are seeking alternative ways to cope. Nicotine is commonly used as a stress-relieving drug and national data along with our results suggests a current trend among teens shifting from cigarette use to vaping products.

Current vaping products target youth.

The variety of flavors was the second highest reason why Capital Regions students vape. Students are aware of the harmful chemicals found in vaping products.

The current NYS health curriculum does not include information on the prevalence and negative side effects of vaping.

Increased legislation restricting the sale of vaping products and targeted public health education must be implemented.



Figure 11. Speaking at the Albany County Legislature meeting on the dangers of vaping.

Conclusions

Vaping in Capital District schools is an epidemic. With prevalence rates higher than the national average, it is clear that there is an immediate need for vaping education in local school curriculums as well as legal restrictions on the distribution of vaping products.

Future Directions

1. Promote use of an educational curriculum for local schools starting at the late elementary level on the dangers associated with using vaping products.

2. Continue to work with the Albany County Legislation on their development of Local Law E, a bill aimed at banning the sale of flavored nicotine vapes in Albany County.

3. Design an experimental protocol aimed at studying the immediate and long term effects of Local Law E in combination with increased education in schools on the prevalence of vape use among students in the Capital District.

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