

What Are the Device and Liquid Characteristics Used with Sweet, Menthol/Mint, and Tobacco ENDS Liquid Flavors: Results From the Population-Based VAPER Study

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Background

Electronic nicotine delivery system (ENDS) device and liquid characteristics (e.g., wattage, nicotine concentration, flavor) are diverse and important in determining product appeal, aerosol volume/ nicotine levels, dependence, and toxicity. Understanding how device and liquid characteristics vary by most used flavor has regulatory implications.

Methods

- From Dec 2020–Apr 2021, 1,218 adults (21+) who use ENDS (5+ days of use/week) self-reported on and submitted photos of their most used device and liquid.
- Excluded participants using liquids without nicotine (n=31) or flavors other than sweet, menthol/mint, or tobacco (n=164)
- Grouped participants (n=1,023) based on their primary ENDS flavor: sweet, menthol/mint, or tobacco
- Used chi-square tests and linear regression to examine device and liquid characteristics by flavor
- Applied post-stratification survey weights for gender/age/race

Sweet-flavored ENDS liquids were used with **higher wattages** and **lower nicotine concentrations** than tobacco-flavored liquids.

Regulations on device and liquid characteristics may differentially affect behaviors of adults who use ENDS.



Learn more about the Vaping and Patterns of E-Cigarette Use Research (VAPER) Study

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Disclaimer: Research reported in this poster was supported by NIDA and FDA Center for Tobacco Products (CTP) under Award Number U54DA036105. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.

Results

- Compared to tobacco flavors, sweet flavors were correlated with lower nicotine concentrations and higher wattages ($p < 0.001$).

Figure 1. Wattage (watts)

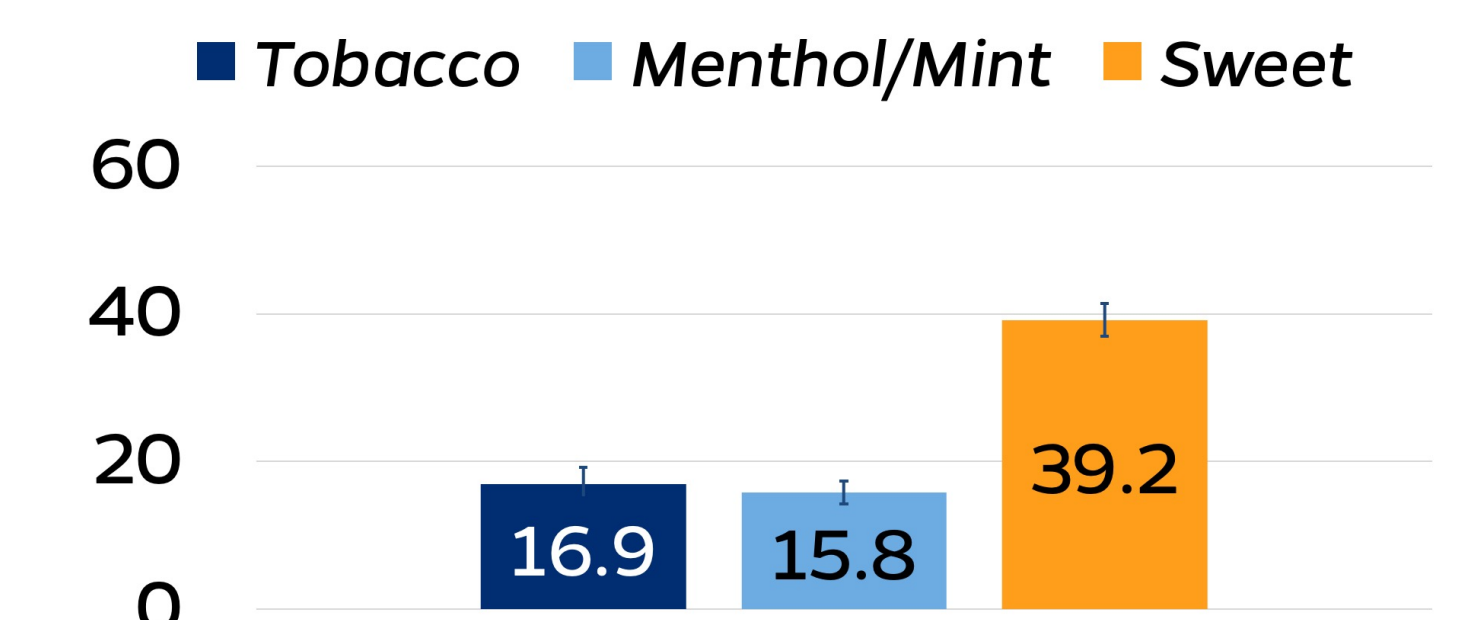
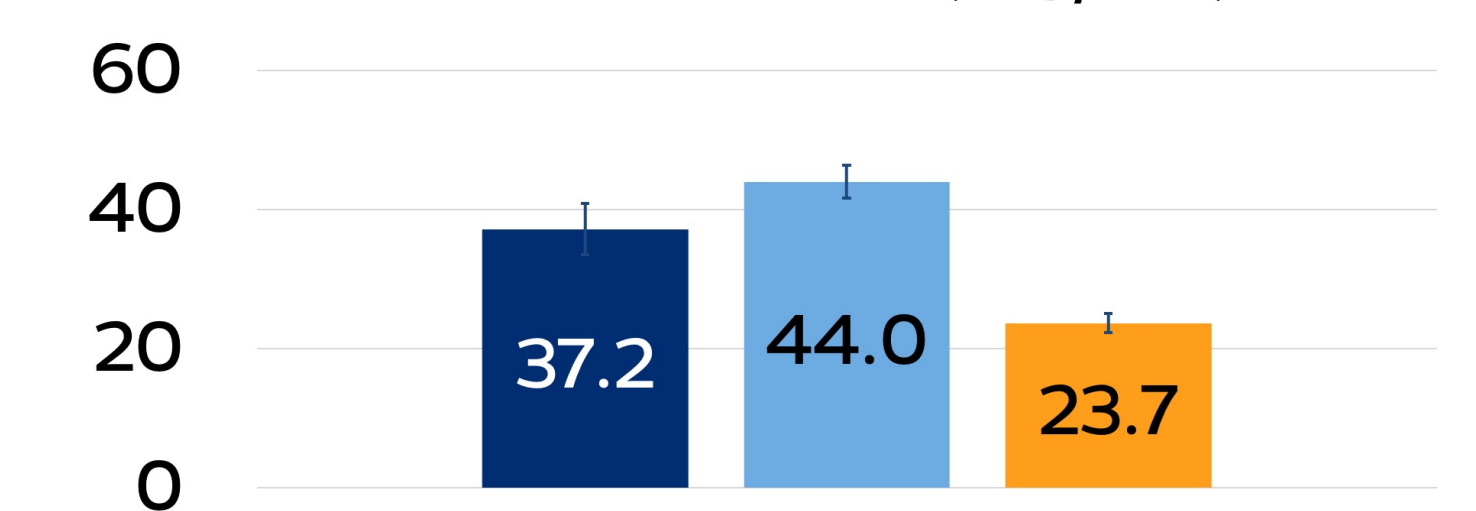


Figure 2. Nicotine Concentration (mg/mL)



- Sweet flavors were more common among participants using disposable devices and reusable devices with refillable pods/tanks than those using reusable devices with disposable pods (85-93% vs. 7.9%; $p < 0.001$).
- Sweet flavors were also more common among participants continuing to use ENDS for the flavor vs. non-flavor reasons (94% vs. 72%; $p < 0.001$).

Conclusions

- Regulatory agencies should consider how regulations may uniquely affect adults who use ENDS with different flavors.

Authors

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