

Study finds youth have misperceptions about synthetic nicotine in e-cigarettes

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Using e-cigarettes (vaping) is highly popular among youth, with more than 2 million high school students using the products, according to the FDA. Recently, manufacturers have started to advertise and sell e-

cigarettes with synthetic nicotine, which is made in a lab rather than derived from tobacco plants. There has been little research conducted with youth on their awareness of synthetic nicotine, or what the industry increasingly refers to as "tobacco-free" nicotine.

Now, a study by University of North Carolina researchers finds widespread uncertainty and misperceptions about the sources of nicotine in e-cigarettes among youth. The study also finds that the language used to describe the products on packaging impacts perceptions of these products among youth who use e-cigarettes. Their findings are published in *Tobacco Control*.

In a national sample, the study found that fewer than one-third of adolescents were aware that the nicotine in e-cigarettes is often derived from [tobacco plants](#). "An important contribution from this study is that adolescents don't understand where nicotine in e-cigarettes comes from," said first author Sarah Kowitt, Ph.D., MPH, assistant professor at UNC Family Medicine and UNC Lineberger Comprehensive Cancer Center. "If youth don't think e-cigarettes are [tobacco products](#) like cigarettes, that could increase the appeal of these products. The more youth associate e-cigarettes with cigarettes, the less youth like them."

The study also found while some youth were aware of e-cigarettes that contain synthetic or "tobacco-free" nicotine, most youth were unaware. Most importantly, Kowitt said that the experimental portion of the study revealed that describing synthetic nicotine as "tobacco-free nicotine" increased intentions to purchase e-cigarettes among youth who use e-cigarettes.

"To me, the big takeaway from our study is that the language that is used describe e-cigarettes—on packaging and advertising—shapes adolescent users' views of the products and their intentions to use them," said senior author Seth Noar, Ph.D., professor at the UNC Hussman School of

Journalism and Media and UNC Lineberger. "The industry has increasingly used the term 'tobacco-free nicotine' to describe synthetic nicotine products, and our data strongly suggest that this term may be misleading to youth in ways that increase the appeal of these addictive products."

The study is the first to examine how youth understand these new [e-cigarette](#) products on the market that use synthetic nicotine. Its goal is to inform efforts by governments and [regulatory agencies](#), including the FDA, to more effectively regulate the language used to describe synthetic nicotine products, such as supporting recommendations to require "synthetic nicotine" on e-cigarette packaging and advertising rather than "tobacco-free nicotine." It is also one of the few studies to more broadly look at whether youth understand the source of [nicotine](#) in [e-cigarettes](#).

More information: Sarah D Kowitt et al, Synthetic nicotine descriptors: awareness and impact on perceptions of e-cigarettes among US youth, *Tobacco Control* (2023). [DOI: 10.1136/tc-2023-057928](https://doi.org/10.1136/tc-2023-057928)

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