

How vaping companies are use Instagram to market to young people

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Samples of the images scraped from Instagram. Credit: Aqdas Malik, Aalto University

E-cigarettes are highly addictive nicotine products with unclear health impacts, particularly on young people. Instagram is a visual social media platform which is wildly popular, particularly with young people. Researchers interested in public health at Aalto university in Finland studied how vaping is represented on the platform. By using artificial intelligence, they were able to analyze hundreds of thousands of posts from a 6-month period last year, and found that a large portion of posts are promoting controversial flavored e-liquids to young audiences.

The research worked by downloading every image on Instagram that had a caption including "#vaping" on the network for June to November 2019. "We knew this would be predominantly promotional material," said Dr. Aqdas Malik from the department of computer science who studies [public health](#) and the internet, "but we were interested in what types of images these would be, and who was posting them." In the end, they generated a database of over half a million pictures, which they then sorted using a neural network, which grouped the images into categories of pictures with similar features.

What the [neural network](#) showed was that 40% of the images—the largest proportion out of the 6 categories—were of vaping e-liquids. These were predominantly posted by Instagram profiles listed as business accounts. The prominence of posts about e-liquids is interesting from a public health perspective because, although many e-cigarette brands market themselves as "smoking cessation" devices, it has been shown by other studies that flavored liquids are strongly linked to adolescent users taking up vaping in the first place. The USA banned the sale of flavored liquids at the beginning of this year specifically to help tackle the huge growth of teenage vaping, and other countries are looking to do the same.

"While print and broadcast media has clear rules and regulations about what can and cannot be advertised, and what constitutes advertising, we don't see this on social media," said Dr. Malik. "I think we need stricter laws and rules on how we allow these products to be seen on these networks. Any 12-year-old with a phone can get an account and bypass the age-rules for seeing what's posted here, and the potential [health](#) implications are significant." 60% of all the posts using the [#vaping](#) hashtag were from business accounts. Over 70% of Instagram users are under 35, and over 35% of its users are under 24 years old. "It's a huge gray area in terms of advertising regulations, especially regarding promotion towards younger audiences," Dr. Malik said.

More information: Vili Ketonen et al, Characterizing vaping posts on instagram by using unsupervised machine learning, *International Journal of Medical Informatics* (2020). [DOI: 10.1016/j.ijmedinf.2020.104223](https://doi.org/10.1016/j.ijmedinf.2020.104223)

Provided by Aalto University

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