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Too Juul for School

Serious Dangers Wrapped in Fun Flavors

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Illustrated by Athina Apizidis

The days of smoking tobacco seemed long gone, with widespread anti-smoking campaigns instilling our generation with the perception that cigarettes were gross and unhealthy. This shift, however, was short lived. In 2003, e-cigarette companies presented us with a new, sleek, tasty alternative to tobacco that appeared less harmful and still provided the same nicotine rush that many people seek.

The e-cigarette's cool friend, the JUUL, has been extremely popular among middle school and high school students over the last three years. The use of e-cigarettes increased by 78 percent and 48 percent from 2017 to 2018 for high school and middle school students respectively. Products like the JUUL were widely discussed in social and news media at the time because they were a new and promising method to help heavy smokers. Their dangers were not known until cases of lung collapse in young teens began showing up in the news.

Over time, accumulated research has uncovered just how dangerous these e-cigarettes are. A study published in Nature's December 2019 issue tested different JUUL pod flavors and found that these nicotine pods "induce inflammation, epithelial barrier dysfunction, and DNA damage in lung epithelial cells and monocytes," among other things. This new research specifically reveals the dangers within the varying synthetic flavorings that so many JUUL smokers love.

The goal of this study was to test the effects of these different synthetic flavorings in JUUL pods, including Creme Brulee, Fruit Medley, Virginia Tobacco, Cool Mint, Cool Cucumber, Mango,

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and Classic Menthol, have on lung tissue when exposed in different concentrations, mimicking the amount of puffs someone would take in at one time. The study produced many findings, such as how JUULs "induce irritation of the lung and inflammatory responses" and that "these flavoring chemicals can induce significant reactive oxygen species (ROS) release, oxidative stress, inflammation, and barrier dysfunction." Such findings had not been found previously because, here, researchers were targeting the effects of synthetic flavoring of certain e-cigarettes. This new information can fuel research by organizations looking to test other synthetic aspects of e-cigarettes.

However, the effect of these popular pods flavors was not a major concern for the company or its consumers, who assumed the pods were relatively safe. As stated on JUUL's website: "We

recognize that alternative tobacco products continue to be the subject of conversation. We welcome dialogue, debate and data, and will register and publish results from vapor-related research we conduct." While this portrays the company as caring about its users' health, there has been no significant research conducted by the company on the health effects of their product.

Since the Fall of 2019, all flavors except for Virginia Tobacco, Menthol, and Classic Tobacco have stopped being sold by the JUUL company as a part of their Youth Prevention initiative. Many accused them of intentionally marketing toward the younger generation and encouraging underage nicotine consumption. In response to the criticism, the company decided to stop manufacturing their top-selling flavors. By removing the most popular flavors, JUUL hoped that many of the teenagers drawn to the product because of its fun flavors would stop vaping.

Looking at outside research, it is clear that all JUUL products, regardless of pod flavor, have dangerous effects on the lungs and entire body. Doctors have compared the lung damage caused by e-cigarettes to that of chemical burns or toxic chemical exposure. "More than 800 cases of lung illness in 46 states have been linked to vaping, and 16 people have died" according to the New York Times. An article published in Nature also noted that e-cigarettes also pose significant dangers to cardiovascular health including inducing: "atherosclerosis, hypertension, thrombogenesis, and myocardial infarction."

The JUUL website highlights the fact that their product is healthier than traditional cigarettes and that their goal is to help existing smokers quit. Even though the JUUL company claims they are mainly looking to help cigarette smokers switch to something less harmful that provides a similar effect, they have released little company-produced studies on the effects of their product. Regardless of intent, middle and high schoolers are using these products. They start vaping because it is popular among their friends and makes them feel a head rush under the guise that JUUL is a safer and possibly even a completely safe alternative. As a result, they are introducing lung-related illnesses to themselves.

While it is true that e-cigarettes do not contain all the harmful ingredients that traditional cigarettes do, there is not enough accumulated research on the effects of their ingredients to deem them a safe choice. With nearly 1 in 3 high school students using e-cigarettes, this misnomer of their "safety" has the potential to eventually be fatal for thousands of teenagers developing nicotine additions. It is clear that the media is trying to steer young people away from e-cigarettes; however, there needs to be an increase in research concerning the dangers of e-cigarettes and easier ways to learn about the dangers of vaping. Society was slowly phasing out nicotine with each generation, but unfortunately, JUUL has fueled a massive resurgence of consumption and addiction.



