



JUUL and Youth: Rising E-Cigarette Popularity

What is JUUL?

The term “electronic cigarettes” covers a wide variety of products now on the market, from those that look like cigarettes or pens to somewhat larger products like “personal vaporizers” and “tank systems.” Instead of burning tobacco, e-cigarettes most often use a battery-powered coil to turn a liquid solution into an aerosol that is inhaled by the user. One e-cigarette device, called a JUUL, has become increasingly popular since its launch in 2015.

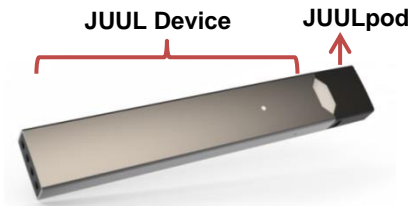


Image from JUUL website, accessed 1/24/18



JUULpods. Image from JUUL website, accessed 1/24/18



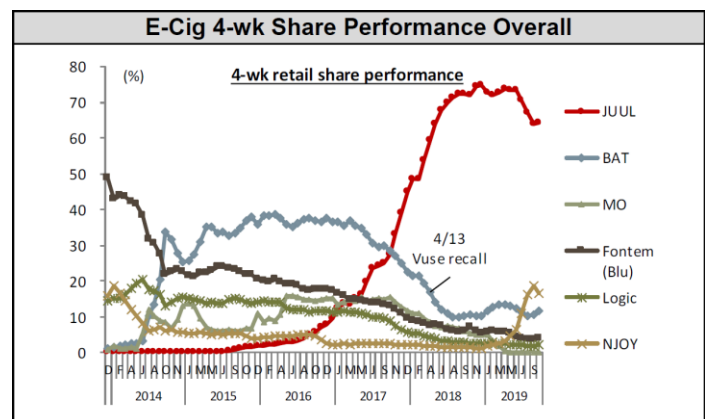
JUUL device charging in the USB port of a laptop. Image from JUUL website, accessed 1/24/18.

JUUL Labs produces the JUUL device and JUULpods, which are inserted into the JUUL device. In appearance, the JUUL device looks quite similar to a USB flash drive, and can in fact be charged in the USB port of a computer. According to JUUL Labs, all JUULpods contain flavorings and 0.7mL e-liquid with 5% or 3% nicotine by weight; JUUL Labs claims that the 5% pods contain the equivalent amount of nicotine as a pack of cigarettes. Until November 2019, JUULpods were available in eight flavors: Mango, Fruit, Cucumber, Creme, Mint, Menthol, Virginia Tobacco and Classic Tobacco.¹ Other companies manufacture “JUUL-compatible” pods in additional flavors; for example, the website Eonsmoke sells JUUL-compatible pods in Blueberry, Silky Strawberry, Mango, Cool Mint, Watermelon, Tobacco, and Caffé Latte flavors.² There are also companies that produce JUUL “wraps” or “skins,” decals that wrap around the JUUL device and allow JUUL users to customize their device with unique colors and patterns (and may be an appealing way for younger users to disguise their device).



JUUL skins. Images from <https://www.mightyskins.com/juul/>

According to data from Wells Fargo, JUUL’s popularity has grown dramatically in the last few years. In mid-2016, dollar sales share for JUUL products was less than 5 percent, the lowest compared to products sold by the main companies in Nielsen-tracked channels.* But by the end of 2017, JUUL sales had surpassed all other companies’ products (see adjacent graph). As a result, JUUL is now more popular than the e-cigarette brands manufactured by the major tobacco companies (blu, Vuse). According to the most recent data about two-thirds of the e-cigarette market share.³ In December 2018, Altria, which makes the most popular cigarette among youth (Marlboro), announced that it was purchasing a 35 percent share in JUUL Labs for \$12.8 billion and valued



Source: Nielsen Total US xAOC/Convenience Database & Wells Fargo Securities, LLC

* Tracked data includes mass channel and convenience stores; does not include online sales or sales from tobacco and vape shops.

the company at \$38 billion.⁴ In 2019, the CEO of JUUL stepped down and was replaced by a top executive from Altria.⁵

As JUUL has surged in popularity, other companies have sought to mimic JUUL's sleek design and pod-based system, with new devices such as MLV's PHIX, Mylé Vapor's Mylé, Altria's MarkTen Elite†, Reynolds' Vuse Solo, and ITG Brands' myblu.⁶ As of September 2018, researchers had identified at least 39 JUUL "knock off" devices.⁷ JUUL has filed patent infringement complaints against many of these copycat devices.⁸

JUUL Use among Youth and Young Adults

In December 2018, the Surgeon General issued an advisory on e-cigarette use among youth, declaring the growing problem an epidemic.⁹ According to the 2019 National Youth Tobacco Survey (NYTS), 5.3 million youth were current e-cigarette users in 2019 - an increase of over 3 million students since 2017. Among high school students, e-cigarette use increased by 135 percent from 2017 to 2019, increasing from 11.7% to 27.5%. Among middle school students, e-cigarette use more than tripled from 2017 to 2019, increasing from 3.3% to 10.5%.¹⁰ According to the CDC, "The rise in e-cigarette use during 2017-2018 is likely because of the recent popularity of e-cigarettes shaped like a USB flash drive, such as JUUL; these products can be used discreetly, have a high nicotine content, and come in flavors that appeal to youths."¹¹ The 2019 NYTS found that JUUL was by far the most popular brand among youth, preferred by 59.1% of high school e-cigarette users.¹²

News articles, letters from school officials, and anecdotal evidence indicate that JUUL has gained popularity among youth and young adults across the country, from middle schools to college campuses. A 2018 study found that nearly one-fifth of youth (ages 12-17) surveyed reported having seen JUUL used in their school.¹³ News stories attribute JUUL's sleek and discreet design to its appeal among this population. For example:

"High school and college students are rushing to retailers to buy the product because its discreet design makes it easy to hide from parents and teachers while also giving the user a big hit of nicotine. Some students have bragged on social media of using the JUUL in class, even though e-cigarettes are banned indoors at most schools." – Pittsburgh Post-Gazette¹⁴

"An editor for New York University's student newspaper documented JUUL's rising on-campus popularity, even in dorm rooms. A student newspaper at the University of Illinois called JUUL a "new epidemic is sweeping across campus." And in suburban D.C., a high school's principal took doors off its bathroom stalls to keep students from using drugs inside —namely JUUL." – USA Today¹⁵

"One reason JUUL and vape pens are so popular among teens currently might be that they can be used indoors without attracting unwanted attention or creating a stench...On Twitter, teens post about their usage in school. The most brazen of them fire up their e-cigarettes while their teachers' backs are turned." - NPR¹⁶

The availability of flavors indisputably contribute to JUUL's popularity among youth. Data from the 2016-2017 wave of the FDA's Population Assessment of Tobacco and Health (PATH) study found that 96.1 percent of 12-17 year olds who had initiated e-cigarette use since the last survey wave started with a flavored product. Additionally, it found that 97 percent of current youth e-cigarette users had used a flavored e-cigarette in the past month and 70.3 percent say they use e-cigarettes "because they come in flavors I like."¹⁷ In late 2018, amid pressure from regulators, JUUL pulled all of its flavors except tobacco, mint and menthol from retail shelves,¹⁸ but this did little to reduce youth use because mint and menthol still have youth appeal and the rest of JUUL's flavors remained available online. In 2019, 57.3% of high school e-cigarette users used mint or menthol e-cigarettes, an increase from 21 percent in 2017 and 38.1 percent in 2018.¹⁹ Among 10th and 12th grade JUUL users, mint is the most popular flavor.²⁰ After release

† Altria pulled the MarkTen Elite device from the market shortly before announcing its plan to purchase a minority share of JUUL Labs.

of this data documenting the popularity of JUUL's mint flavor among youth, JUUL announced that it was ending all sales of flavored pods, except for tobacco and menthol flavors.²¹

Health Concerns and JUUL

The number of youth using e-cigarettes, including JUUL, is alarming and raises serious concerns that e-cigarettes could be an entryway to nicotine addiction and use of regular cigarettes for some kids. Though there is insufficient research on the long-term effects of using e-cigarettes in general, and certainly not specific to JUUL, the use of such products still raises concerns because they contain nicotine. The company claims that the nicotine in JUUL is from "nicotine salts found in leaf tobacco, rather than free-base nicotine," which they claim "accommodate cigarette-like strength nicotine levels."²² According to a 2018 Surgeon General advisory on e-cigarette use among youth, nicotine salts allow users to inhale high levels of nicotine more easily and with less irritation than e-cigarettes that use free-base nicotine. As a result, it could be easier for young people to initiate the use of nicotine with these products.²³ News stories from across the country have documented stories of youth struggling to break their addiction to JUUL. One study estimated that youth could meet the threshold for nicotine addiction by consuming just one quarter of a JUULpod per day.²⁴

While it is still an open scientific question whether e-cigarettes might be able to help adult smokers give up cigarettes, kids should not be using any tobacco product, including e-cigarettes. Nicotine is a highly addictive drug that can have lasting damaging effects on adolescent brain development.²⁵ Nicotine also impacts the cardiovascular system.²⁶ The Surgeon General concluded that, "The use of products containing nicotine poses dangers to youth, pregnant women, and fetuses. The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe."²⁷ Educating youth about the dangers of JUUL and nicotine use is critical because a study from Truth Initiative found that 63 percent of 15-24 year old JUUL users did not know the product always contains nicotine (all pods sold from JUUL do contain nicotine).²⁸ A pending lawsuit against JUUL from the state of North Carolina claims that JUUL deceived consumers by understating the nicotine levels of its product and its addiction potential.²⁹

The Surgeon General found that while more research is needed, evidence from several longitudinal studies suggests that e-cigarette use is "strongly associated" with the use of other tobacco products among youth and young adults, including conventional cigarettes.³⁰ The National Academy of Sciences, Engineering and Medicine (formerly the Institute of Medicine) also concluded in its 2018 report that, "There is substantial evidence that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults."³¹

JUUL's Youth-Friendly Marketing Launch

When JUUL first launched in 2015, the company used colorful, eye-catching designs and youth-oriented imagery and themes, such as young people dancing and using JUUL. JUUL's original marketing campaign included billboards in New York City's Times Square, YouTube videos, advertising in Vice Magazine, launch parties and a sampling tour. According to the *New York Times*, "Cult Collective, the marketing company that created the 2015 campaign, "Vaporized," claimed that the work "created ridiculous enthusiasm" for the campaign hashtag, part of a larger advertising effort that included music event sponsorships and retail marketing."³²



JUUL billboard in Times Square, New York City, 2015. <https://www.spencer-pederson.com/work-1/2017/2/23/juul-go-to-market>

Social media continued to fuel JUUL's popularity, with lasting effects. JUUL was one of the first major e-cigarette brands to rely heavily on social media to market and promote its products. JUUL's initial marketing expenditures in traditional channels were modest compared to competing brands, and these

expenditures decreased as the brand increased content and received more promotion on social media channels like Instagram and Twitter.³³ A study in *JAMA Pediatrics* found that 8 out of 10 of JUUL's Twitter followers in April 2018 were between the ages of 13 to 20.³⁴ Additionally, user-generated posts that tag (e.g., #JUULvapor, #doit4JUUL) and feature JUUL do not have any restrictions. These kinds of social media posts can increase exposure to pro-e-cigarette imagery and messaging, by making JUUL use look cool and rebellious.

JUUL officials claim that its popularity among youth is purely accidental and that the product's viral social media presence following its launch was beyond the company's control. Ashley Gould, Chief Administrative Officer of JUUL Labs, said that the explosion of youth users *"was not anticipated and completely unexpected to us."*³⁵ Gould has noted that, *"All of the things you see on social media, we have absolutely nothing to do with."*³⁶ Contrary to these claims, a *New York Times* investigation interviewed a former senior manager at JUUL who *"said that he and others in the company were well aware the campaign launch might appeal to youth. After Juuls went on sale in June 2015, he said, the company quickly realized that teenagers were, in fact, using them because they posted images of themselves vaping Juuls on social media."*³⁷



In April 2018, the FDA sent an official request for information to JUUL Labs to obtain more information about the youth appeal of the product, including the company's marketing practices.³⁸ JUUL subsequently updated its marketing code³⁹ with the purported goal of limiting youth exposure to its advertising. In June 2018, JUUL announced a new social media policy that would no longer use models on those platforms, but instead would feature former smokers who switched to JUUL.⁴⁰ FDA later called on JUUL and other major e-cigarette makers to develop "robust plans on how they'll convincingly address the widespread use of their products by minors."⁴¹ As part of its response to FDA, in November 2018 JUUL announced the suspension of its official social media accounts on Instagram and Facebook, and limits on its Twitter posts to "non-promotional communications only," as well as age-restricting its Twitter account. In this same announcement, JUUL noted its coordination with the major social media platforms to attempt to "police" content and "remove youth-oriented social media content from third-parties or users."⁴² JUUL's marketing to youth was the subject of a Congressional hearing in 2019.⁴³

Availability and Accessibility of JUUL

JUUL devices and JUULpods are available for sale on JUUL's website and other online retailers as well as in convenience stores, vape shops, and tobacco retailers. To access JUUL's website, users must indicate that they are 21 or older by simply clicking on a button, but JUUL asserts that it uses stricter age verification processes (21+) for online purchases. FDA law prohibits sales of e-cigarettes to those under age 18 and some state and local laws have higher minimum age-of-sale laws.

Youth obtain JUUL products from social sources who may be over age 18, online or in-person from retailers that are incompliant with state or federal law, or from online resellers like ebay[‡] and Craigslist that have no age verification. According to the 2018 Monitoring the Future Survey, more than 60% of 10th grade students say it is easy to get vaping devices and e-liquids.⁴⁴ A 2018 study found that among surveyed youth JUUL users (ages 12-17), half had gotten JUUL from a social source.⁴⁵ While most youth e-cigarette user (72.2%) report getting their e-cigarettes from friends and other social sources, some

[‡] ebay policy prohibits sale of tobacco products; however, JUUL products have been found for sale on the website under other categories such as electronics, with product listings that neglect to use the terms "tobacco" and/or "nicotine." In April 2018, FDA contacted ebay regarding these violations and ebay has worked to remove JUUL listings and implement measures to prevent new JUUL listings (although some JUUL products are still available on ebay).

underage minors are able to buy their own e-cigarettes. According to the 2018 NYTS, 16.5% of middle and high school e-cigarette users under 18 report obtaining e-cigarettes from a vape shop in the past month, 9.8% from a gas station or convenience store, and 5.7% from the Internet.⁴⁶ Data from the 2016-2017 wave of FDA's Population Assessment of Tobacco and Health (PATH) study found that 7.2% of current youth (ages 12-17) e-cigarette users reported that they usually get their e-cigarettes online.⁴⁷ the Internet.⁴⁸ In April 2018, the FDA sent warning letters to 40 retailers across the country for illegally selling JUUL products to minors.⁴⁹

Though the up-front cost of the device is high (a JUUL device is listed at \$14.99 and a pack of 4 JUUL pods is listed at \$15.99 on the JUUL website), advocates have shared stories of kids pooling together money to share a device and sell "hits" from the device to recoup the cost. In addition, JUUL products are sometimes offered for a lower price with promotions at retail locations.

JUUL has also expanded its reach internationally, with sales in Canada, the European Union, Indonesia, South Korea and the Philippines. JUUL launched in Canada in September 2018, and just that same month, a survey found that 7.0% of Canadian teens had already tried JUUL and it had become the third most popular brand among past-month users, with 10.3% reporting it as their usual brand.⁵⁰



Photo courtesy of CounterTobacco.org:
October 20, 2018, North Port, FL.
https://countertobacco.org/wp-content/gallery/main-galleru/2018_LowJuul_NorthPortFL.jpg

Regulatory Action Needed to Curb JUUL Use among Youth

As part of its November 2018 response to FDA, JUUL announced that it planned to take several voluntary actions, including limiting sales of its flavored refill pods (except for mint, menthol, and tobacco) exclusively to its website instead of retail stores; limiting purchases from its website to prevent bulk purchases; enhancing its online age-verification system for purchases; and enforcement against unauthorized online sales, including third-party sales.⁵¹ FDA has since proposed to restrict sales of all flavored e-cigarettes (except for tobacco, mint, and menthol flavors) to age-restricted retail stores and require more effective age-verification processes for online sales.⁵²

Insisting that more needs to be done to reverse the epidemic of youth e-cigarette use, public health groups have called on FDA to go further, including implementing marketing restrictions and stopping the sales of all flavored e-cigarette products that have not been subject to public health review by the FDA as the law requires.⁵³

Campaign for Tobacco-Free Kids, December 12, 2019 / Laura Bach

¹ JUUL Website, accessed November 12, 2018, <https://www.juul.com/shop/pods>.

² Eonsmoke website, accessed January 24, 2018, <https://www.eonsmoke.com/12-buy-juul-compatible-pods-capsules>.

³ Nielsen Total US xAOC/Convenience Database & Wells Fargo Securities, LLC, in Wells Fargo Securities, *Nielsen: Tobacco All Channel Data Thru 10/4 – Cig Vol Declines Moderate*, October 15, 2019.

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