



JUUL and Youth: Rising E-Cigarette Popularity

What is a 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.



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% nicotine by weight, which they claim to be the equivalent amount of nicotine as a pack of cigarettes, or 200 puffs. JUULpods come in five flavors: Cool Mint, Crème Brulee, Fruit Medley, Virginia Tobacco, Mango, as well as three additional limited edition flavors: Cool Cucumber, Classic Tobacco, and Classic Menthol.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).

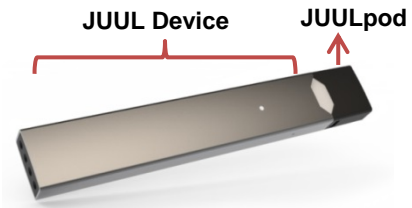
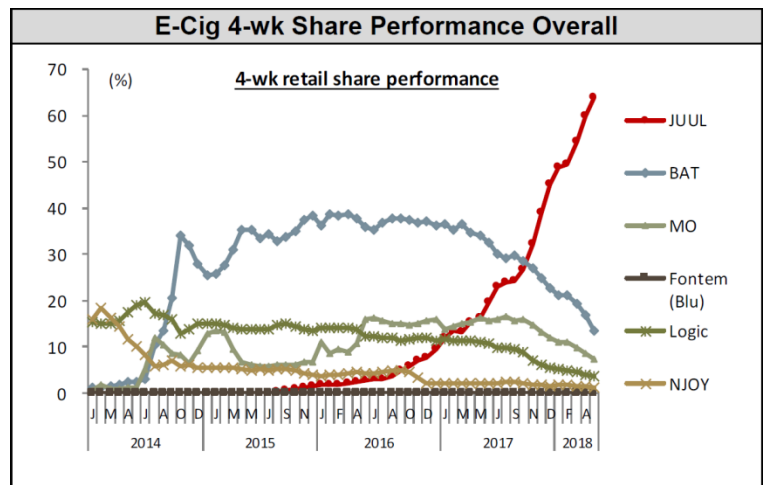


Image from JUUL website, accessed 1/24/18



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

According to data from Wells Fargo, JUUL’s popularity has grown dramatically in the last year, with unit sales increasing more than 600 percent in 2017. 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).³ As a result, JUUL is now more popular than the e-cigarette brands manufactured by the major tobacco companies (blu, Vuse, and MarkTen). According to the most recent data from Wells Fargo, JUUL sales currently represent 64% of the market share.⁴



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.

JUUL Use among Youth and Young Adults

According to the National Youth Tobacco Survey, 11.3 percent of high school students and 4.3 percent of middle school students—over 2 million youth—were current e-cigarette users in 2016.⁵ However, a study from Truth Initiative found that a quarter of youth and young adult JUUL users don't refer to JUUL use as "e-cigarette use" or "vaping," but rather as "JUULing."⁶ Therefore, it is possible that existing surveys may not be capturing the full spectrum of youth e-cigarette use. 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.⁷ 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-Gazette⁸

"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 Today⁹

"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." - NPR¹⁰

The availability of flavors may also contribute to JUUL's popularity among youth. A national survey found that that 81 percent of youth aged 12-17 who had ever used e-cigarettes had used a flavored e-cigarette the first time they tried the product, and that 85.3 percent of current youth e-cigarette users had used a flavored e-cigarette in the past month. Moreover, 81.5 percent of current youth e-cigarette users said they used e-cigarettes "because they come in flavors I like."¹¹

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."¹² The health impact of that specific form of nicotine is yet unknown.

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.¹³ Nicotine also impacts the cardiovascular system.¹⁴ 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."¹⁵ 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).¹⁶

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.¹⁷ The National Academy of Sciences (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.”¹⁸

Marketing and Accessibility of JUUL

When JUUL was 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, YouTube videos, advertising in Vice Magazine, launch parties and a sampling tour.

More recently, JUUL has updated its marketing code¹⁹ with the purported goal of limiting youth exposure to its advertising. Its current marketing materials focus primarily on its popular flavors and on messaging that encourages smokers to “make the satisfying switch.”

However, social media continues to help fuel JUUL’s popularity. While JUUL’s Instagram account is age-restricted to those 18 and older, its Twitter account is not age restricted and contains similar content. Additionally, JUUL-sponsored posts and user-generated posts that tag (e.g., #JUULvapor, #doit4JUUL) and feature JUUL have no restrictions. These kind of social media posts can increase exposure to pro-e-cigarette imagery and messaging, by making JUUL use look cool and rebellious. 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.²⁰



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

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 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 are obtaining JUUL products from social sources who may be over age 18, online or in-person from retailers that are not in compliance with state or federal law, or from online resellers like ebay[†] and Craigslist that have no age verification. A 2018 study found that among surveyed youth JUUL users (ages 12-17), three-quarters had purchased a JUUL device from a retail store and half had gotten JUUL from a social source.²¹ In April 2018, the FDA sent warning letters to 40 retailers across the country for illegally selling JUUL products to minors.²² Though the up-front cost of the device is high (a JUUL starter kit, which includes the device, charger and 4 JUULpods, is \$49.99 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.



JUUL Twitter Post. January 9, 2018. <https://twitter.com/JUULvapor/status/950890455499231235>

Campaign for Tobacco-Free Kids, May 31, 2018 / Laura Bach

[†] 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.” FDA recently 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).

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- ¹ JUUL Website, accessed January 24, 2018, <https://www.juulvapor.com/shop-pods> and <https://www.juulvapor.com/limited-edition>. See also JUUL Instagram, November 30, 2017, <https://www.instagram.com/p/BcISxvNgEVP/?taken-by=juulvapor>; December 19, 2017, <https://www.instagram.com/p/Bc5lyhcAwqi/?taken-by=juulvapor>.
- 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 12/30, January 9, 2018.
- ⁴ Nielsen Total US xAOC/Convenience Database & Wells Fargo Securities, LLC, in Wells Fargo Securities, Nielsen: Tobacco 'All Channel' Data 5/19, May 29, 2018.
- ⁵ CDC, "Tobacco Use Among Middle and High School Students — United States, 2011-2016," *MMWR*, 66(23):597-603, June 16, 2017, <https://www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6623a1.pdf>.
- ⁶ Truth Initiative, "Monitoring the Future reveals good and bad news underscoring need for education and regulation," December 14, 2017, <https://truthinitiative.org/news/monitoring-future-reveals-good-and-bad-news-underscoring-need-education-and-regulation>.
- ⁷ Truth Initiative, "Nearly 1 in 5 youth say they have seen Juul used in school," May 23, 2018, <https://truthinitiative.org/news/nearly-1-5-youth-say-they-have-seen-juul-used-school>.
- ⁸ Ruth, J. "A mango-scented flash-drive-looking device lets kids smoke in class," *Pittsburg Post-Gazette*, December 12, 2017, <http://www.post-gazette.com/local/region/2017/12/12/JUUL-vaporizer-nicotine-flash-drive-small-concealable-e-cigarette/stories/201712120151>.
- ⁹ Hafner, J. "Juul e-cigs: The controversial vaping device popular on school campuses," *USA Today*, October 31, 2017, <https://www.usatoday.com/story/money/nation-now/2017/10/31/juul-e-cigs-controversial-vaping-device-popular-school-campuses/818325001/>.
- ¹⁰ Chen, A. "Teenagers Embrace JUUL, Saying It's Discreet Enough to Vape in Class," *NPR*, December 4, 2017, <https://www.npr.org/sections/health-shots/2017/12/04/568273801/teenagers-embrace-juul-saying-its-discreet-enough-to-vape-in-class>.
- ¹¹ Ambrose, BK, et al., "Flavored Tobacco Product Use Among US Youth Aged 12-17 Years, 2013-2014," *Journal of the American Medical Association*, published online October 26, 2015.
- ¹² Pax Labs, Inc. (former name of JUUL Labs), *Pax Labs, Inc. Granted U.S. Patent for Nicotine Salt E-Cigarette*, December 22, 2015, https://www.juulvapor.com/media/wysiwyg/JUUL/JUUL_USPTO_Patent_Press_Release_15-1216.pdf.
- ¹³ HHS, *The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General*, CDC, Office of Smoking and Health (OSH), 2014, <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html>. See also: CDC Office on Smoking and Health, "Electronic Nicotine Delivery Systems: Key Facts," July 2015. Accessed November 19, 2015. <http://www.cdc.gov/tobacco/stateandcommunity/pdfs/ends-key-facts2015.pdf>
- ¹⁴ HHS, *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*, Centers for Disease Control and Prevention, Office on Smoking and Health, 2010 <http://www.ncbi.nlm.nih.gov/books/NBK53017/>.
- ¹⁵ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
- ¹⁶ Willett, J, et al., "Recognition, use and perceptions of JUUL among youth and young adults," *Tobacco Control*, published online April 18, 2018. See also: <https://truthinitiative.org/news/juul-e-cigarettes-gain-popularity-among-youth>
- ¹⁷ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016. See also, Leventhal, AM, et al., "Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence," *Journal of the American Medicine Association*, 314(7): 700-707, 2015. Wills, Thomas A, et al., "Longitudinal study of e-cigarette use and onset of cigarette smoking among high school students in Hawaii," *Tobacco Control*, published online first January 25, 2016. Wills, TA, et al., "E-cigarette use is differentially related to smoking onset among lower risk adolescents," *Tobacco Control*, published online August 19, 2016. Barrington-Trimis, JL, et al., "E-Cigarettes and Future Cigarette Use," *Pediatrics*, 138(1), published online July 2016. Barrington-Trimis, JL, et al., "E-Cigarettes and Future Cigarette Use," *Pediatrics*, 138(1), published online July 2016. Wills, TA, et al., "E-cigarette use is differentially related to smoking onset among lower risk adolescents," *Tobacco Control*, published online August 19, 2016.
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- ²¹ Truth Initiative, "Where are kids getting JUUL?" May 29, 2018, <https://truthinitiative.org/news/where-are-kids-getting-juul>.
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