

Use of JUUL on Missouri College Campuses

Partners in Prevention (PIP) is a statewide coalition dedicated to creating healthy and safe college campuses in Missouri. PIP tracks students' high-risk behaviors through the annual implementation of the Missouri Assessment of College Health Behaviors (MACHB) survey. The student demographic information and responses from students on health behaviors are collected from the 2019 survey. This brief focuses on the use of JUUL among Missouri college students.

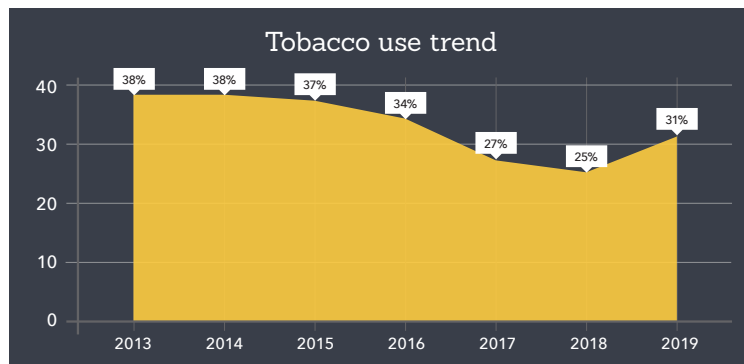
JUUL Products

JUUL is a type of electronic cigarette that is becoming increasingly popular among youth. The use of an e-cigarette is usually referred to as vaping, but the use of JUUL is referred to as 'juuling'. Although JUUL is a type of e-cigarette, it has separated itself from other brands on the market. JUUL is the largest e-cigarette brand in the US and the e-cigarette of choice among youth. JUUL works similarly to other e-cigarette devices, but has several unique features that make it potentially more dangerous. JUUL resembles a USB drive and can be charged in a USB port. It can be concealed as a USB drive and used in public spaces, such as classrooms. JUUL emits little to no detectable vapor. JUUL pod cartridges contain liquid nicotine and come in a variety of flavors. The ease of concealment and the variety of flavor options make JUUL a popular tobacco product among youth. JUUL pods contain as much nicotine as a pack of cigarettes and deliver nicotine more quickly and at higher doses than other e-cigarettes, which can increase the risk of addiction. Approximately two-thirds of JUUL users aged 15 - 24 do not know that JUUL always contains nicotine.¹ Long-term effects of e-cigarettes are unknown, but short-term effects may include rapid deterioration of vascular function, increased heart rate, and elevated diastolic blood pressure.² JUUL pods contain a greater amount of benzoic acid than other e-cigarettes. Benzoic acid is known to cause coughs, sore throat, abdominal pain, nausea, and vomiting if exposure is constant.³

A Growing Concern

The Centers for Disease Control and Prevention (CDC) have reported that, as of October 2019, there have been 1,080 lung injury cases and 18 deaths associated with the use of vaping products in 2019. In Missouri alone, there have been 22 reports of vaping-related illnesses, including one death. The majority of these reports in Missouri have been among individuals aged 15-24. The Governor of Missouri, Michael Parsons, has signed an executive order to use existing resources to develop a statewide campaign to educate, warn, and deter the use of vaping devices among Missouri's youth.⁴

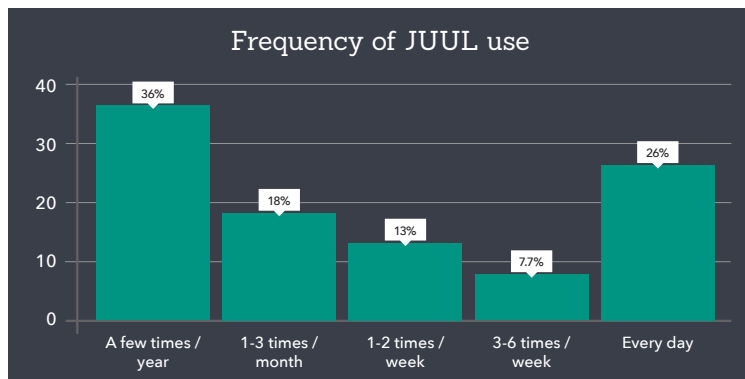
National data shows that tobacco use rates have generally decreased over time. On the MACHB, students are asked about tobacco use. The trend of tobacco use among Missouri college students can be seen in the chart below. Tobacco use rates were fairly steady from 2013-2015 and began to decline in the following years. An increase in tobacco use compared to the previous years can be seen in 2019. This may be attributed to 'JUUL' being included as an option on the MACHB question about use of tobacco products.



For more information, visit pip.missouri.edu

Funded by the Missouri Department of Mental Health, Division of Behavioral Health

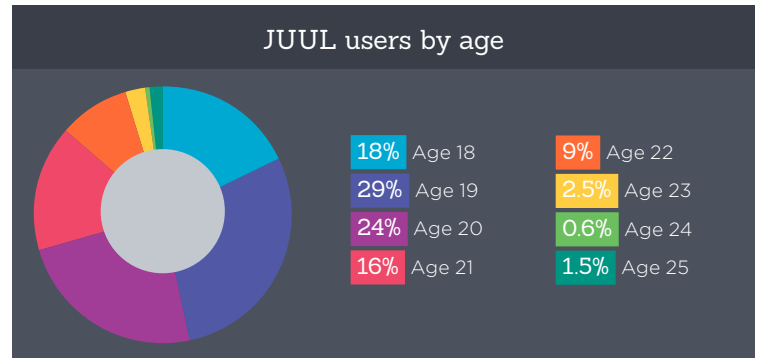
Juuling was first mentioned on the MACHB in 2017 when one student indicated 'JUUL' in the open-answer part of the question. In 2018, 15 students reported JUUL usage. The 2019 MACHB was the first to include 'JUUL' as an option for tobacco products used. In 2019, 19% of students reported using a JUUL within the past year. This percentage was higher than usage in any other category (cigarettes, cigars, smokeless tobacco, tobacco pipes, hookah, and e-cigarettes). This explosion of JUUL use has been deemed an epidemic by the CDC and the United States Food and Drug Administration (FDA).⁵ Frequency of JUUL use is as follows: A few times a year (36%), 1-3 times a month (18%), 1-2 times a week (13%), 3-6 times a week (7.7%), and every day (26%).



JUUL Users by Age

Students over age 21 use most tobacco products at higher rates than their under-21 peers. JUUL is the only product with a higher rate of users under 21. Among those who use JUUL, 70% are under age 21.

The majority of JUUL users are ages 18-20. JUUL usage reported in ages 18-25 is as follows:



Summary

This data shows the extent to which the JUUL trend is a growing concern. Research on JUUL is limited due to the emergence of this product in recent years. Future implementations of the Missouri Assessment of College Health Behaviors may examine why students use a JUUL and how they initiated this practice. The survey may also inquire about perceptions of amount of nicotine contained in a JUUL pod. Educational efforts appear to be needed on many campuses to address this growing problem.

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- <https://truthinitiative.org/press/press-release/juul-e-cigarettes-gain-popularity-among-youth-awareness-nicotine-presence>
- <https://www.aafp.org/patient-care/public-health/tobacco-nicotine/tools/e-cigs.html>
- <http://www.center4research.org/the-dangers-of-juuling/>
- <https://www.sos.mo.gov/library/reference/orders/2019/eo18?fbclid=IwAR1xASEoKbSdTIba1r5RBNMfd7ZW9Nq01Gu9yVTgJZd4bk-wnuCTvKB3fUM>
- <https://www.sos.mo.gov/library/reference/orders/2019/eo18?fbclid=IwAR1xASEoKbSdTIba1r5RBNMfd7ZW9Nq01Gu9yVTgJZd4bk-wnuCTvKB3fUM>