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Abstract

How do people misperceptions and misconceptions of the effects of cigarette usage effect their behaviors and decision making of smoking?

Tobacco is responsible for 7 million deaths every year and leading cause of preventable disease, disability, and death globally (GBD 2019). This is also the case for United States. In 2019, tobacco is estimated to be responsible for 549 thousand deaths in US ([IHME database](#)- last accessed on February 10, 2022). Furthermore, based on data on 2019, about 34 million US adults smoke cigarettes and over 16 million people live with at least one disease caused by smoking, and 58 million nonsmoking Americans are exposed to secondhand smoke ([CDC/OSH](#), last accessed in February 10, 2019; and US Health and Human Services 2014).

Tobacco market has another nicotine product called electronic cigarettes and other electronic nicotine delivery systems ('ENDS') which were imported into the US in 2006 (CASAA 2020). In the last ten years, electronic cigarette usage has spiked among young adults. In 2019, 32.9% of youth used an ENDS over the past 30 days, while 10.7% used ENDS frequently; that is, on 20 or more of the past 30 days (Centers for Disease Control and Prevention 2020). Both academics and those in the medical community are studying how nicotine affects this demographic and whether electronic cigarettes are a gateway drug for combustible cigarettes.

Electronic cigarettes divided tobacco control community worldwide, as one group claims electronic cigarettes (e-cigarettes) to be a breakthrough invention for tobacco users ceasing their addiction to conventional cigarettes. Other group claims that tobacco control are at risk of reversing years of public health initiatives which helped to reduce tobacco use and are now advancing towards a new addiction with currently unknown long-term health hazards.

E-cigarettes take many different forms, vape pens, vaporizers, e-hookahs are all classified as e-cigarettes. They can also be referred to as electronic nicotine delivery systems (ENDS) and alternative nicotine delivery systems (ANDS). All e-cigarettes have a battery and a heating element which turns the e-liquid into a smokable vapor. Some e-cigarettes contain nicotine which is derived from tobacco, but they do not contain tobacco. There has not been enough research done to show that e-cigarettes are an effective way to stop smoking, and currently US FDA has been examining e-cigarettes, so no decisions have been made yet.

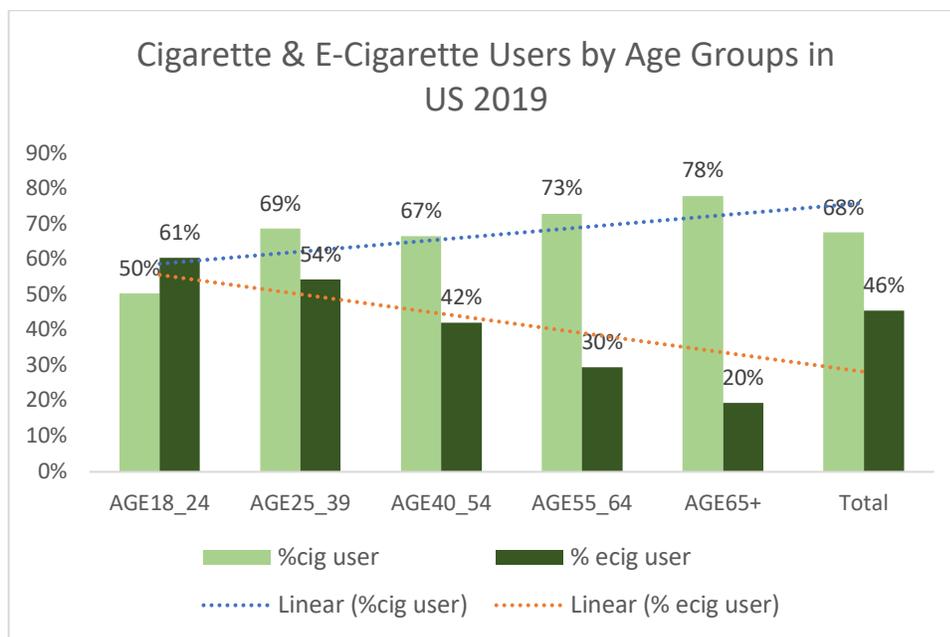
The marketing and advertising of these devices has been extensive as companies both promoted the products as a healthy alternative to traditional cigarettes and teens are attracted to flavors and packaging mirroring popular candies. The manufacturers soon found the product commercially lucrative. Yet the public still holds many misconceptions when it comes to e-cigarette usage and their health effects.

In this research, my objective is to assess; (1) which demographic and socioeconomic characteristics of e-cigarettes users are associated with vaping behavior and (2) how their knowledge and perceptions about combustible and e-cigarettes influences their vaping behavior. For that I plan to use Global State of Tobacco Poll survey which is funded by the Foundation for Smoke Free Foundation (FSFW) and collected by Nielsen in May 2019 in 50 States of US.

I will first examine the binary relationship and then use logistic regression by controlling those cofounding factors together. For that dependable variable will be set 1 for those who use e-cigarettes, and 0 for others. For this analysis I will use R-Studio programming language. The data includes only nicotine product users age 18 and 69 years of age. Nicotine products include factory made cigarettes, roll-your-own tobacco (RYO), electronic cigarettes (e-cigs) with and without nicotine and nicotine replacement products (NRTs- patches and gums). US data has 2029 observation where 926 are female and 1096 are male.

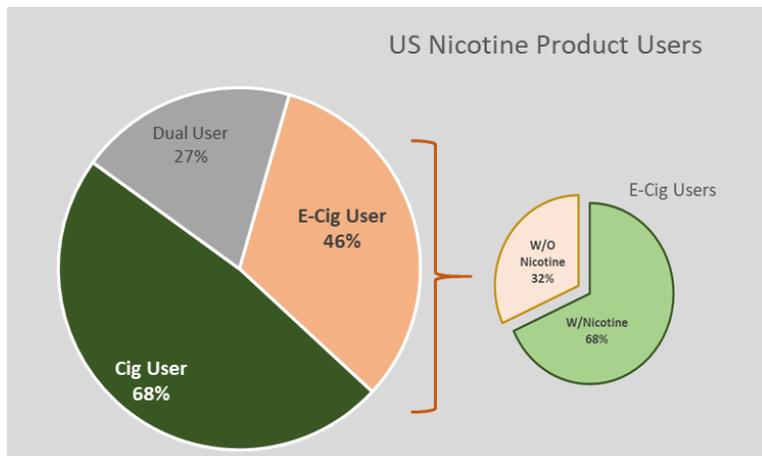
Our preliminary descriptive analysis (Figure 1) suggests that e-cigs usage decreases by age as cigarette usage increases.

Figure 1: Combustible and electronic cigarette usage by age in US, 2019



Furthermore, in the data 46% of respondents said they use e-cigs, 68% uses combustible cigarettes and 27% are dual users. Among e-cig users, majority 68% uses e-cigs with nicotine as illustrated in Figure 2.

Figure 2: Combustible, E-Cig and Dual users, US, 2019.



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