

Yale Center for the Study of Tobacco Product Use and Addiction: Flavors, Nicotine and Other Constituents (YCSTP)

Institution: Yale University

2 U54 DA036151-06

Project 2: Sweet and Cooling Flavors and Nicotine: Examinations in New and Established Tobacco Product Users

PI: Krishnan-Sarin, Suchitra; Yale University

Project 2 Abstract:

Most tobacco products contain a wide variety of flavors. Epidemiological evidence suggests that while flavored tobacco products are used by tobacco users of all ages, younger tobacco users seem to have greater preference for flavors, when compared with older tobacco users. Furthermore, youth who are initiating tobacco use often report the availability of appealing flavors as one of the primary reasons for trying and using certain tobacco/nicotine products, like e-cigarettes (e-cigs), cigars and hookahs. Despite this evidence, the FDA-CTP has not proposed new regulations on flavors, other than the ban on all flavors except menthol in cigarettes in 2009. This lack of action could be related to the dearth of adequate scientific evidence on whether flavors alter appeal and abuse potential of tobacco/nicotine products. Flavors could alter appeal and abuse potential of nicotine/tobacco, either through the primary reinforcing characteristics of flavor (e.g. appealing aroma or taste) directly increasing product appeal and abuse potential, or by ameliorating aversive characteristics of tobacco/nicotine (henceforth “ameliorating” attributes/effects). The goal of this project is to generate critical evidence on the role of flavors to inform and support FDA regulations on flavored tobacco/nicotine products. We will determine the influence of the “aroma and taste” and “ameliorating” attributes of popular sweet and menthol flavors on the appeal and use of e-cigs. This project will use e-cigs because they provide an ideal system for examining the inhaled effects of flavors and nicotine, and are available in different (7000+) flavors. Study 1 will use established methodology and sensory experiments to examine the influence of sweet, cool and tobacco flavors, and combinations thereof, on the appeal and abuse potential of e-cigs containing nicotine concentrations varying in harshness (3 mg/ml, 12 mg/ml), among susceptible youth who are likely to initiate e-cig use. This study will also explore if sensory responses to flavors predict emergence in e-cigarette and other tobacco use behaviors at six-month and one-year follow ups. Study 2 will use established experimental methods to examine if different classes of flavors (i.e., sweet, cool, tobacco), when combined with nicotine concentrations differing in harshness (6 and 18 mg/ml) alter appeal and nicotine reward among younger and older combustible tobacco users. Importantly, this study will also explore the differential influence of sweet, cool, and tobacco flavors on switching from combustible tobacco product use to e-cigarettes, among younger and older adult combustible tobacco users. The evidence generated from this novel proposal is crucial to support regulations directed at flavors in tobacco/nicotine products like e-cigs, which will likely need to strike a balance between reducing the appeal of these products for youth and enhancing their appeal for combustible tobacco users looking to switch to use of e-cigs for harm-reduction.