

INVESTIGATING TRENDS & ASSOCIATIONS IN CIGARETTE, VAPE & MARIJUANA USE AMONG CALIFORNIA HIGH SCHOOL STUDENTS

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INTRODUCTION

8 million deaths are associated with direct tobacco use and another 1.2 million deaths from secondhand exposure.¹ Cigarette smoking rates in the U.S. have dramatically decreased.² Decreases in cigarette smoking rates have been offset by vape use. 15-17yr olds were vaping 8x more in 2018 than 2017.³ E-cigs have been available since 2014 & the carcinogenic long-term health effects are unknown.⁴ Legalizing recreational marijuana in CA has increased access, marketing exposure, and social acceptance, particularly among youth. Cannabis use in teen years risks negatively affecting brain development.⁵



OBJECTIVES

To investigate associations between cigarette smoking, vaping, and marijuana use among California high schoolers. And examine current dual-product substance use across adolescents.

METHODS

- 2015-2020 California School Tobacco Survey (CSTS) data for 10th & 12th grade students were analyzed for self-reported current use of cigarettes, vapes, and marijuana.
- Current use was defined as any use in the past 30 days
- Time trends and 95% confidence intervals in the prevalence of current cigarette use, vaping, and marijuana use were estimated using R statistical software version 4.3.3.

RESULTS

	2015-2016	2017-2018	2019-2020
Total # of HS Respondents	41,821	130,048	150,634
Average Age	16.24 years old	16.31 years old	16.16 years old
Sex (weighted)			
Male	50.15 (49.34-50.97)	43.14 (42.78-43.50)	46.70 (46.35-47.05)
Female	49.85 (49.03-50.66)	46.75 (46.39-47.11)	50.90 (50.55-51.26)
Race/Ethnicity (weighted)			
Non-Hispanic White	22.15 (21.32-23.00)	22.85 (22.56-23.14)	23.67 (23.39-23.95)
African American/Black	4.42 (4.02-4.87)	3.39 (3.26-3.52)	3.92 (3.78-4.07)
Hispanic/Latino	55.23 (54.09-56.36)	51.83 (51.47-52.20)	56.46 (56.12-56.81)
Asian American/Pacific Islander	15.67 (14.96-16.42)	12.16 (11.96-12.37)	13.47 (13.26-13.68)
American Indian/Alaska Native	0.30 (0.23-0.39)	0.35 (0.31-0.39)	0.46 (0.42-0.52)

Table 1. Demographic characteristics of 2015-2020 CSTS High School respondents.

Current Tobacco, Vape & Marijuana Use

- Marijuana was the highest used product among CA highschoolers.
- Cigarette smoking prevalence has continued to decrease.
- Vaping is the 2nd highest product used. Rates are 2x the rate of cigarettes.

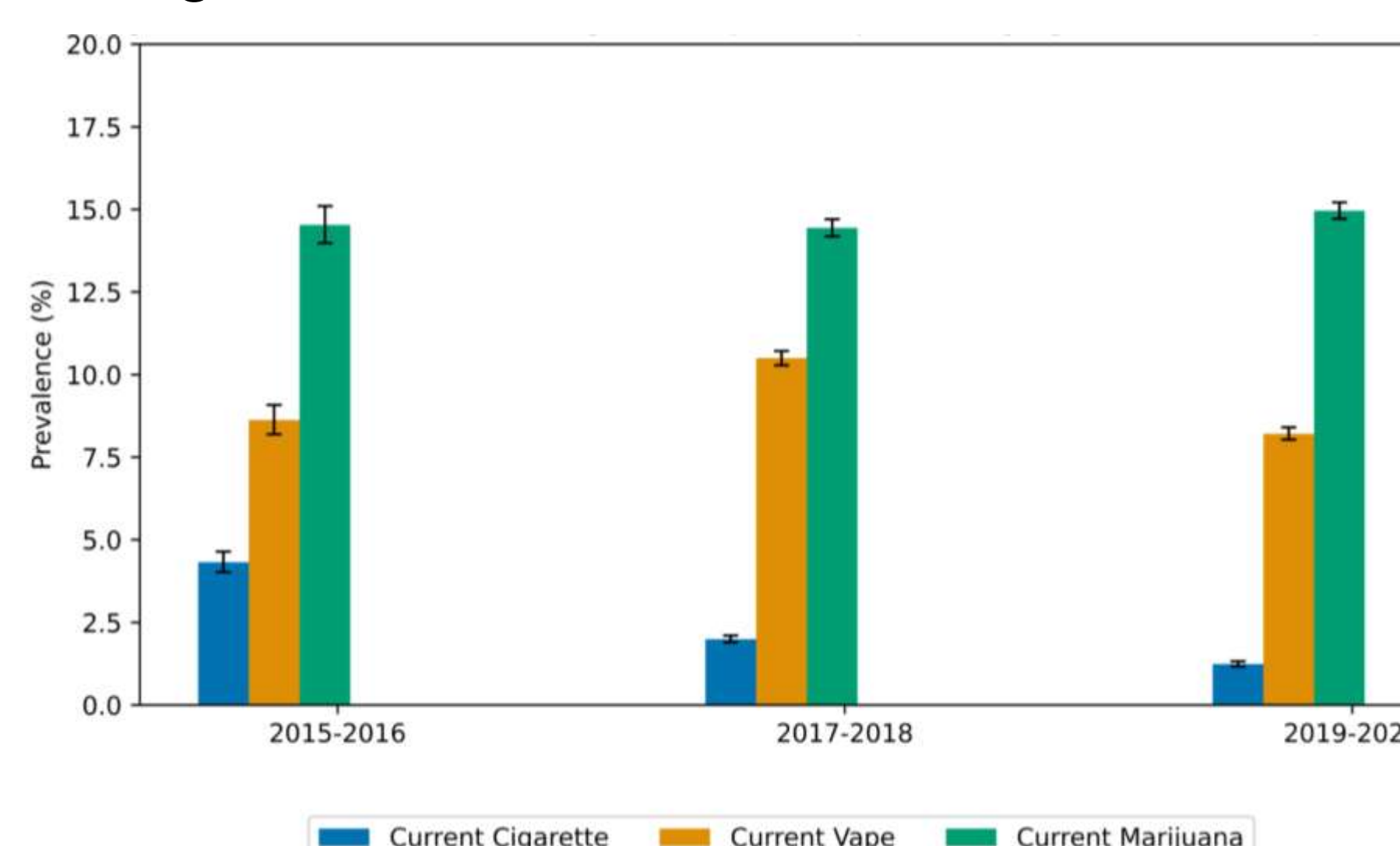


Figure 1. Overall current prevalence use rates of cigarettes, vapes, and marijuana by year of the CSTS.

Concurrent Product Use for 2015-2016

- About 76% of CSTS respondents dual-used marijuana if they were current cigarette users.
- Vaping is second likely to be picked up by current cigarette users by 56%.
- Around 36% of 10th & 12th graders currently were vaping with marijuana.

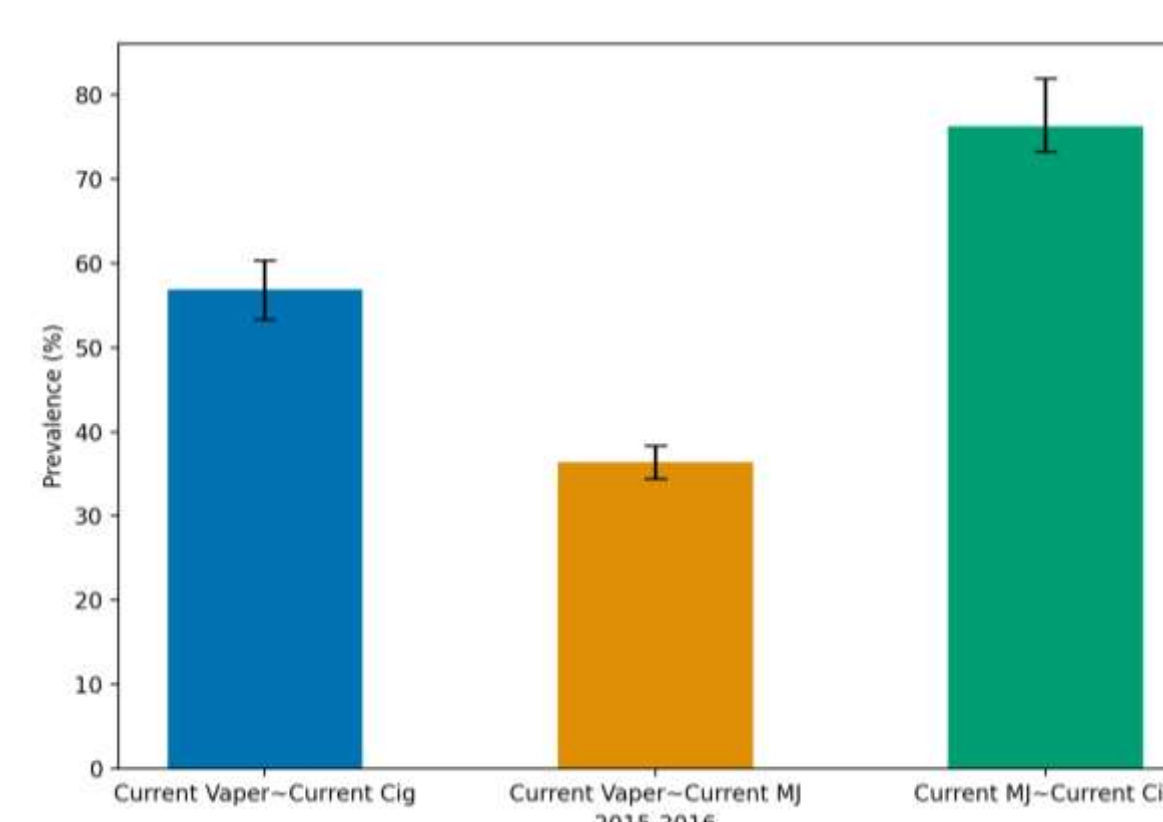


Figure 2. Overall concurrent substance use prevalence among CSTS high school respondents for 2015-2016

RESULTS

Concurrent Product Use for 2019-2020

- Current marijuana use among current cigarette users was still the highest overall concurrent use at about 82%.
- Vaping prevalence among current cigarette use was high at about 72%.
- Dual-use of vapes and marijuana prevalence increased to 40%

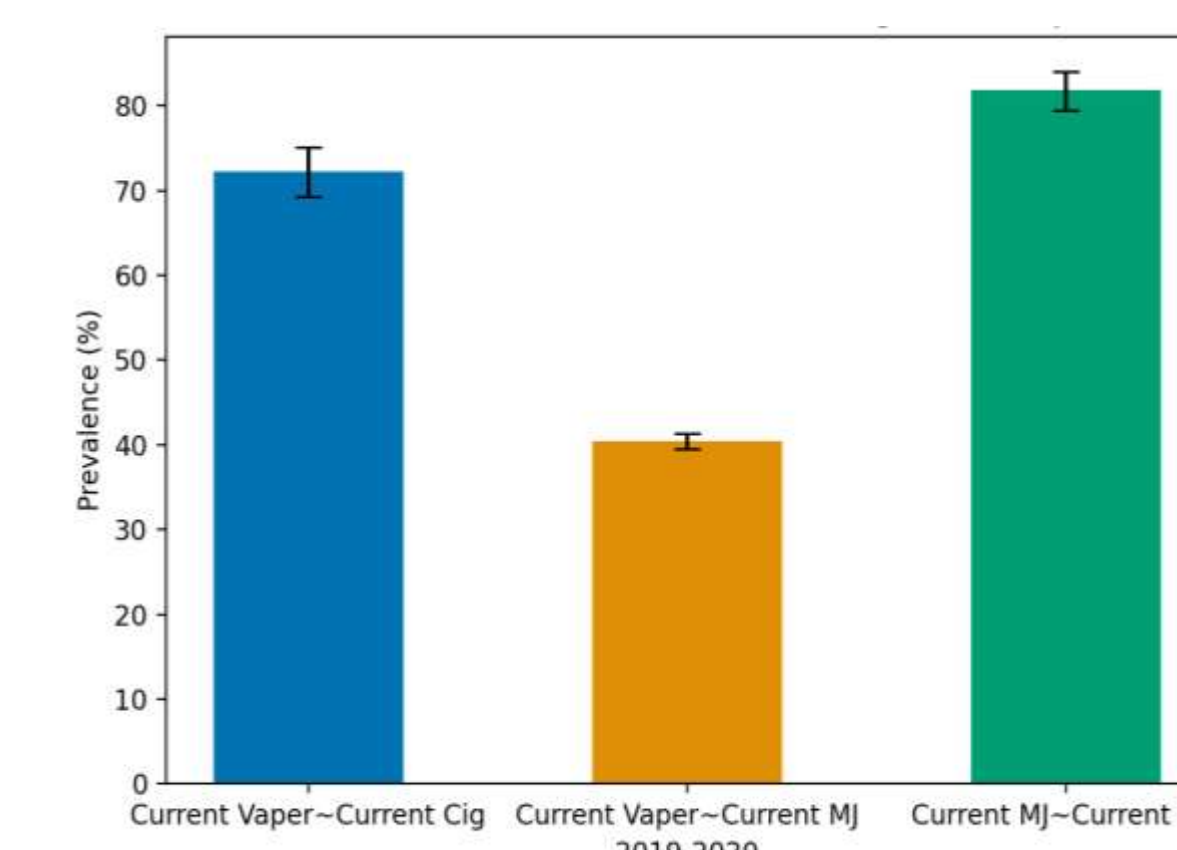


Figure 3. Overall concurrent substance use prevalence among CSTS high school respondents for 2019-2020

CONCLUSIONS

- Rates of marijuana use among CA high school students are much higher than rates of cigarettes and vape use. Marijuana use is also associated with using cigarettes and vapes.
- Due to smoking prevalence currently being low & marijuana rates being drastically higher, marijuana might be considered the predominant gateway to other substance use among adolescents.
- Prevention efforts to reduce marijuana use among high schoolers among race/ethnic groups with the highest rates are warranted.

ACKNOWLEDGMENTS

This research was funded in part by the Tobacco-Related Disease Research Program (TRDRP): T32SR4917 (Pulvers & Trinidad) & T32IR4988 (Trinidad)



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