Gavin W. Lim
High School Student
Jesuit, New Orleans, LA

Mentor: Dr. Michael D. Celestin Jr.
LSUHSC, School of Public Health

The Cognitive Vaping Gap: Examining Past-Year Quit Attempts Among Youth Electronic Vapor Users with and Without Cognitive Difficulties

BACKGROUND: In 2021, 18.0% of U.S. youth (9-19+) vaped (i.e., using electronic cigarettes). Nicotine exposure during adolescence may affect physical health and cognitive functioning. Although quitting can reduce these risks, nicotine dependence and withdrawal may make cessation difficult. Limited research has examined whether youth who report serious difficulty concentrating, remembering, or making decisions because of a physical, mental, or emotional condition are more likely to attempt quitting e-cigarettes. This study addresses that gap by comparing the odds of past-year e-cigarette quit attempts among youth with and without these cognitive difficulties.

METHODS: We conducted a quantitative cross-sectional study using 2025 National Youth Tobacco Survey (NYTS) data. The study included adolescents who reported current e-cigarette use in the past 30 days (N=1,259) with valid responses to the quit attempt question and the question: "*Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?*" Survey-weighted descriptive statistics summarized participants' sociodemographic characteristics. Chi-square tests compared participant characteristics by number of quit attempts, while survey-weighted ordinal regression models examined the association between serious difficulty and quit attempts, adjusting for sociodemographic and tobacco related covariates. Multicollinearity among independent variables was assessed using correlation coefficients.

RESULTS: Among 1,259 current e-cigarette smokers, 26.5% reported no quit attempts, 43.1% reported 1-5 quit attempts and 31.8% reported ≥ 6 quit attempts. In bivariate analyses, quit attempts differed significantly by age (p=0.005), sex (p=0.007), race/ethnicity (p=0.020), education level (p=0.006) and whether they use combustible tobacco products (p=0.043). In adjusted ordinal regression model, male participants had 43% higher odds of reporting more quit attempts than females (AOR=1.43, 95% CI: 1.06–1.93), whereas Hispanic/Latino had lower odds o reporting more quit attempts compared to white participants AOR=0.63, 95% CI: 0.47–0.85). Concentration difficulties (AOR=1.02, 95% CI: 0.82–1.26) and mental health symptoms (AOR=1.04, 95% CI: 0.75–1.43) were not significantly associated with quit attempts after adjustment. There was no difference in quit attempts by mental health symptoms or concentration difficulties.

CONCLUSION: Among youth who currently use e-cigarettes, serious difficulty concentrating, remembering, or making decisions was not associated with quit attempts after adjusting for sociodemographic and tobacco-related factors. Future research should examine demographic differences in adolescent e-cigarette cessation.