

## E-cigarette use by young adults linked to childhood maltreatment

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Young adults with a history of childhood abuse or neglect are more prone to using e-cigarettes during the transition to adulthood, according to a new study led by researchers at Virginia Commonwealth University.



"E-cigarette use has overtaken cigarette smoking among American adolescents. Those who have experienced childhood maltreatment may be at particular risk of using e-cigarettes, as these experiences have been linked to future nicotine dependence," said Sunny Shin, Ph.D., an associate professor in the School of Social Work and the Department of Psychiatry in the School of Medicine. "However, because e-cigarettes are relatively new, research is limited in the area."

The study, "Adverse Childhood Experiences and E-Cigarette Use During Young Adulthood," was published in *The American Journal on Addictions*, the official journal of the American Academy of Addiction Psychiatry.

The study relied on a sample of 208 people aged 18-21 and examined the relationship between childhood maltreatment and e-cigarette use, and explored the potential role of impulsivity in linking childhood maltreatment to e-cigarette use via a series of models controlling for demographic characteristics.

Previous studies have linked childhood maltreatment to nicotine dependence. But little research has been done to test the association between childhood maltreatment and e-cigarette use, including research that aims to understand the pathways linking childhood abuse and neglect with e-cigarette use.

"Young adults exposed to [childhood maltreatment] are at risk for developing addictive behaviors, including nicotine dependence. Empirically based knowledge about the pathways or mechanisms linking [childhood maltreatment] to e-cigarette use would increase the success of prevention and intervention efforts targeted for this highly vulnerable population," according to the study. "Thus, the present study examined the relationship between exposure to [childhood maltreatment] and e-cigarette use, and explored the potential role of impulsivity in linking



## this relationship."

In addition to finding childhood maltreatment is significantly associated with e-cigarette use, the study found that childhood maltreatment was also related to "negative urgency"—or the tendency to engage in impulsive risky behavior in response to intense negative emotions—which, in turn, was also significantly correlated with lifetime e-cigarette use.

"What we found is that not only are maltreated young adults more likely to use e-cigarettes, but they are doing so because they are unable to stop their behavior when distressed," Shin said. "They may use e-cigarettes to cope with trauma-related negative emotions. Our findings suggest that targeting trauma-related negative emotions and emotion-related impulsivity may be most effective in preventing e-cigarette use among victimized young adults."

The long-term health consequences of e-cigarettes are unclear, but recent studies have connected e-cigarette use to various adverse health outcomes, including heart attack, respiratory problems and asthma.

The researchers were interested in looking at e-cigarette use among young adults, as nicotine is highly addictive and harmful to adolescent brain development. Young people exposed to adverse childhood experiences such as child abuse and neglect were considered to be a particularly high-risk population.

"Our findings suggest that exposure to [childhood maltreatment] is significantly related to lifetime e-cigarette use," according to the study. "This finding is consistent with the empirically supported proposition that [childhood maltreatment] is significantly associated with the use of other tobacco products such as cigarettes. Our finding is particularly noteworthy because previous studies have demonstrated that individuals



who have experienced [childhood maltreatment] are more prone to nicotine dependence."

Further research will be needed to more fully understand the findings, the study concludes, including using longitudinal designs, more representative samples, and measures of motives to use e-cigarettes.

**More information:** Sunny H. Shin et al, Adverse Childhood Experiences and E-Cigarette Use During Young Adulthood, *The American Journal on Addictions* (2019). DOI: 10.1111/ajad.12890

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