

Concurrent vaping in early teen smokers linked to persistent and heavier smoking in late teens

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Young teen smokers who also vape may be at heightened risk of persistent and heavier smoking in their late teens, reveal the combined

findings of two nationally representative UK and U.S. studies, published online in the journal *Tobacco Control*.

Despite national differences in [e-cigarette](#) regulation and marketing between the two countries, the findings suggest that [e-cigarettes](#) may deepen early patterns of smoking, known as the "entrenchment hypothesis," conclude the researchers.

The prevalence of smoking among [teens](#) has fallen sharply over the past several decades. But it's not clear what role e-cigarettes might have in reinforcing or reversing this trend. Teens who have already started smoking before the age of 15 are especially vulnerable to developing nicotine dependency, say the researchers, who wanted to find out if and how concurrent e-cigarette use might shape future smoking patterns in this group.

They drew on 1,893 early teen smokers from two large, nationally representative cohort studies in the UK and US: the UK Millennium Cohort Study (1090); and the US Population Assessment of Tobacco and Health (PATH) Study (803).

Participants in these studies were regularly surveyed about their use of vapes and how often they smoked conventional cigarettes up to the age of 17.

Among the UK early teen smokers, 57% said they also vaped. The equivalent figure for the US early teen smokers was 58%. By their late teens, those who had concurrently vaped while smoking in their early teens were more likely to continue smoking.

Among UK participants, 61% of early vapers were smoking in their late teens compared with 50% of non-vapers. The equivalent figures for the US participants were 42% and 24%.

The odds of continuing to smoke in their late teens among early teen concurrent vapers were 45% higher than they were for non-vapers in the US, and 119% higher than they were for non-vapers in the UK.

By their late teens, frequent smoking—defined as more than 6 cigarettes/week or at least 27/month—was almost twice as common among UK early vapers (37%) as it was among non-vapers (23%). Similarly, frequent smoking was nearly 3 times as common among US early teen vapers (20%) than it was among non-vapers (7%).

Overall, the odds of frequent smoking versus not smoking in their late teens were twice as high among the early concurrent vapers than they were among those who hadn't vaped in their early teens in the UK. Similarly, the odds of frequent smoking versus not smoking were 5 times higher among the early concurrent vapers than they were among those who hadn't vaped in their early teens in the US.

"These findings are consistent with the entrenchment hypothesis—namely that e-cigarettes entrenched teens who smoked early into later patterns of continued and more frequent tobacco use," explain the researchers. "In contrast, there was no evidence that use of e-cigarettes disrupted tobacco cigarette-smoking youth. In other words, the introduction of the now widely available new product of e-cigarettes does not transition adolescents away from tobacco among current youth in both the UK and U.S."

They add, "These results stand in contrast to studies of e-cigarettes for smoking cessation among adults, which emphasizes the need for continued studies of early smoking adolescents."

This is, however, an [observational study](#), and as such, can't establish cause. Moreover, it relied on personal recall so may be subject to bias, caution the researchers.

Nevertheless, they conclude, "Although a great deal of attention has centered on restricting e-cigarettes so that they do not serve as a pathway into [tobacco](#) initiation among youth, our results highlight that considering their impacts on youth who initiate smoking at an early age remains important as well. Comprehensive steps must be taken to reduce adolescent access to e-cigarettes, particularly to reduce the likelihood of entrenchment among youth who initiate [smoking](#) early."

More information: E-cigarette use among early adolescent tobacco cigarette smokers: testing the disruption and entrenchment hypotheses in two longitudinal cohorts, *Tobacco Control* (2023). [DOI: 10.1136/tc-2022-057717](#)

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