

Adolescent E-Cigarette Users' Perceptions of the Harm and Addictiveness of Conventional Cigarette Smoking

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INTRODUCTION

Nicotine addiction underlies the progression from cigarette experimentation to sustained smoking, which precipitates smoking-related diseases. Adolescents may be vulnerable to nicotine addiction because of ongoing brain development and greater brain sensitivity to nicotine. In addition, adolescents' perceptions related to smoking may influence their smoking behavior, which in turn would increase their risk of nicotine addiction.

Electronic cigarette (e-cigarette) use among adolescents has increased over the years and has surpassed conventional cigarette smoking. E-cigarette use may lead to the initiation of conventional cigarette smoking among adolescents, potentially resulting in nicotine addiction. Numerous studies now show that e-cigarette use is a risk factor for conventional cigarette smoking, but the mechanisms underlying this association are not clear.

As e-cigarettes continue to rise in popularity and their association with conventional cigarette smoking becomes evident, it is important to explore how adolescent e-cigarette users compare with non-users (youth who are both non-e-cigarette users and non-conventional cigarette smokers), conventional cigarette smokers, and dual users (youth who use both e-cigarettes and conventional cigarettes) on perceptions of harm and addiction risk of conventional cigarette smoking, and on other known predictors of conventional cigarette smoking such as peer smoking (the number of friends who smoke), influence of antismoking ads, and risk-taking propensity (willingness to take risks). This will provide insights into why adolescent e-cigarette users are at risk for conventional cigarette smoking and could lead to the design of more effective campaigns that communicate potential harms and addictiveness of e-cigarettes.

This research brief reports on a study that examined adolescent e-cigarette users' perceptions of harm and addiction risk of conventional cigarette smoking while accounting for other factors such as peer smoking, perceived influence of antismoking ads, risk-taking propensity, sociodemographic variables. The data were from a national sample of eighth and tenth grade students collected through the Monitoring the Future Study, an annual national cross-sectional survey on adolescent substance use and related behaviors. This study extends the knowledge base by describing adolescent e-cigarette users' attitudes and perceptions regarding conventional cigarette smoking that may leave them vulnerable to becoming conventional cigarette smokers.

KEY FINDINGS

- > Adolescent e-cigarette users differed from non-users, conventional cigarette smokers, and dual users on their perceptions of the harm and addictiveness of conventional cigarette smoking, influence of antismoking ads, peer conventional cigarette smoking, and risk-taking propensity.
- > Compared to non-users, e-cigarette users reported lower perceptions of addictiveness of conventional cigarette smoking, were less influenced by antismoking ads, had more cigarette-smoking friends, and were more prone to risk-taking. Each of these is a risk factor for conventional cigarette smoking.
- > E-cigarette users did not differ from cigarette smokers with regards to perceived harm of conventional cigarette smoking or risk-taking propensity, both known risk factors for conventional cigarette smoking.
- > However, e-cigarette users did differ from conventional cigarette smokers and dual users in some regards. E-cigarette users reported higher perceptions of addictiveness of conventional cigarette smoking, more influence by antismoking ads, and fewer cigarette-smoking friends.

See figure on next page

ADOLESCENT E-CIGARETTE USERS' PERCEPTIONS OF THE ADDICTION AND HARM RISKS OF CONVENTIONAL CIGARETTE SMOKING*

	E-Cigarette Users vs. Non-Users	E-Cigarette Users vs. Cigarette Smokers	E-Cigarette Users vs. Dual Users
Perceived addictiveness of conventional cigarette smoking	—	+	+
Perceived harm of conventional cigarette smoking	no difference	no difference	+
Perceived harm of e-cigarette use	—	—	no difference
Perceived influence of antismoking ads	—	+	+
Number of friends who smoke	+	—	—
Risk-taking propensity	+	no difference	no difference

This figure shows the relationships between adolescent e-cigarette users' perceptions of the addiction and harm risks of conventional cigarette smoking compared to three groups: non-users, cigarette smokers, and dual users. Also shown are known risk factors for cigarette smoking: the influence of antismoking ads, the number of friends who smoke, and how prone adolescents are to take risks.

Pluses mean that, compared to non-users, smokers, and dual users, adolescent e-cigarette users have higher perceptions of addictiveness, harm, and influence of ads, as well as more friends who smoke and a higher likelihood to take risks. **Minuses** mean that the e-cigarette users are lower on those factors compared to the other groups. For example, adolescent e-cigarette users have lower perceived addictiveness of cigarette smoking compared to non-users, but higher perceived addictiveness of smoking compared to cigarette smokers and dual users.

*From multivariate binary logistic regression models of national samples of eighth and tenth graders from 2014 and 2015 (N=14,151)

POLICY IMPLICATIONS

Adolescent e-cigarette users endorsed a number of attitudes, perceptions, and characteristics that are risk factors for conventional cigarette smoking, including low perceptions of the addictiveness of conventional cigarette smoking, less influence by antismoking ads, and more peers who smoke conventional cigarettes compared to non-users. These perceptions may leave them vulnerable to becoming conventional cigarette smokers or dual users in the future, and potentially increase their risk for nicotine addiction. Antismoking messages and other adolescent smoking prevention programs should be expanded to address the addiction risks associated with all tobacco products, not just conventional cigarettes.

REFERENCE

Owotomo, O., Maslowsky, J., Loukas, A. (2017). Perceptions of the harm and addictiveness of conventional cigarette smoking among adolescent e-cigarette users in the United States. *Journal of Adolescent Health*, published online ahead of print.

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