



# The Association Between Social Norms and E-Cigarette Use Among College Students

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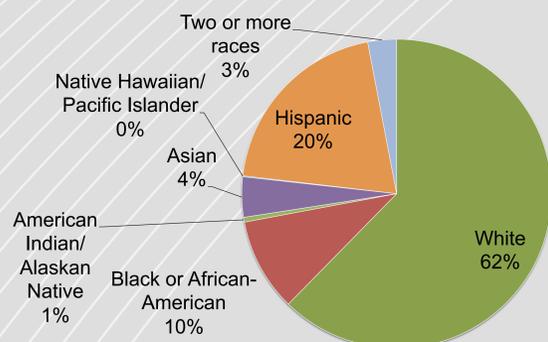
## Background

- The use of electronic cigarettes, also known as e-cigarettes, has recently become increasingly popular among college students, yet relatively little research has examined factors associated with the use of these products.
- According to Social Learning Theory, social norms may play a particularly important role in college students' behaviors. As such, individuals may partake in e-cigarette use based on behavioral observations of both friends and peers.
- While social norms have been shown to play a role in traditional cigarette use, the association between current e-cigarette use and both perceived peer use and perceived friend use of e-cigarettes has yet to be explored.
- This study examined the unique roles of perceived friend and peer norms on college students' current e-cigarette use.

## Method

- Participants were a convenience sample of 2,856 students ( $M$  age = 27.6,  $SD$  = 10.6) from 6, 4-year universities in Texas. The sample was primarily female (68.3%) and primarily White (see Figure 1).
- A 41-item anonymous online survey was administered in Summer 2014.
- On the survey, questions were modeled after items from the Youth Tobacco Survey (YTS), which assesses a variety of components, including knowledge and attitudes regarding tobacco (CDC, 2014).

**Figure 1. Race/Ethnicity of Study Sample (N=2,856)**



## Measures & Analysis

- Past 30-day use of e-cigarettes**
  - Past 30-day use of e-cigarettes was assessed with the question, "In the last 30 days, have you used an e-cigarette, vape pen, e-hookah, or vaporizer, even one or two puffs?" (0 = no, 1 = yes)
- Past 30-day use of cigarettes**
  - Past 30-day use of traditional cigarettes was assessed with the question, "During the last 30 days, how many days did you use the following?" (0 = 0 days, 1 = 1 or more days)
- Peer use of e-cigarettes**
  - Peer use of e-cigarettes was assessed with, "Think about all of the students at your college or university. Approximately what percentage of the student body do you think use the following products?" (1 = 0-10%, 10 = 91-100%)
- Close friend use of e-cigarettes**
  - Close friend use of e-cigarettes was assessed with, "Think about all of your friends. Approximately how many of them use the following products?" (1 = None, 2 = Some, 3 = Most, 4 = All)
- Controlling for race/ethnicity, age, gender, and use of traditional cigarettes, logistic regression was used to examine the association between current e-cigarette use and perceived peer use and perceived close friend use of e-cigarettes.

## Results

- As shown in Table 1, the covariates of age and current use of cigarettes were significantly associated with current e-cigarette use. That is, younger students were more likely than older ones to have used e-cigarettes in the past 30 days as well as students who were current smokers.
- Further, close friend use, but not peer use, was associated with current e-cigarette use. Students with more close friends who would use these products were also more likely than their peers to use e-cigarettes.



**Table 1. Factors associated with current e-cigarette use**

	Current e-cigarette use	
	O.R.	CI (95%)
<b>Covariates</b>		
Race/Ethnicity	1.37	(0.88-1.77)
Age	<b>0.97</b>	<b>(0.96-0.99)</b>
Gender	0.83	(9.62-1.11)
Past 30-day cigarette use	<b>9.36</b>	<b>(7.07-12.41)</b>
<b>Explanatory Variables</b>		
Peer use of e-cigarettes	0.94	(0.88-1.01)
Close friend use of e-cigarettes	<b>3.99</b>	<b>(3.13-5.11)</b>

Note: Boldface indicates significance at  $p < 0.05$

## Discussion & Conclusion

- Consistent with Social Learning Theory, which posits that behaviors are influenced by interactions held with close social contacts, perceived friend use of e-cigarettes was more relevant to current e-cigarette use when compared to perceived peer use of e-cigarettes.
- Further findings indicate that current smokers were nine times more likely than non-smokers to also use e-cigarettes. Thus, efforts to reduce e-cigarette use among college students should, above all, focus on reducing cigarette use.
- E-cigarette prevention and intervention programs on college campuses should target current smokers and should focus on changing the norms associated with e-cigarette use among close friend groups.

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