

# Examining JUUL Awareness, Interest, and Use among U.S. Young Adults: Evidence to inform Risk Communication Messaging

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## Introduction

- Electronic cigarettes (e-cigarettes) pose uncertain risks of health harm and addiction and are associated with subsequent initiation of harmful, combustible tobacco use.
- JUUL is a pod-type e-cigarette that has quickly dominated over 75% of the U.S. e-cigarette market, is the most widely marketed e-cigarette product, and uses nicotine salts that are more addictive than free-base nicotine formulations found in other e-cigarettes.
- There is limited research on demographic correlates and young adults' reasons for JUUL interest and use, risk perceptions and beliefs, and use intentions and motivation to quit.

## Goals & Objectives

- To examine young adults' underlying reasons for interest and use of JUUL and their risk perceptions and beliefs that can be targeted in public education messaging about JUUL.
- As an initial step, we examined associations between demographics and cigarette smoking status with JUUL awareness and use among U.S. young adults aged 18 to 30 years.

## Methods

### Study Procedures

- 332 U.S. young adults age 18 to 30 years were recruited online using Amazon Mechanical Turk in June 2018.

### Self-report Measures

- **Demographics:** age, gender, race, household income, and education.
- **Cigarette smoking status:** two valid questions assessing those who have smoked  $\geq 100$  cigarettes in their lifetime and now currently smoke "every day" and "some days".
- **JUUL awareness and use:** single item, "Before today, have you ever heard of or used JUUL vapor products?" Response options included I have never heard of this product; I have heard of this product, but never used it; I have used this product, but not within the past 30 days; I have used this product in the past 30 days. Response options recoded as I have never heard of this product; I have heard of this product but never used it; I have used this product.

### Statistical Analyses

- We used bivariate tests to examine associations between demographics and cigarette smoking status with JUUL awareness and use.

**Table 1. Participant Characteristics**

Demographics	N (%)	M (SD)
Age		26.2 (2.9)
Gender		
Male	208 (60.1)	
Female	124 (35.8)	
Race	235 (67.9)	
White	96 (27.7)	
Non-white		
Household Income	182 (52.6)	
<\$50,000	102 (29.5)	
\$50,000 - \$75,000	48 (13.9)	
> \$75,000		
Education		
$\leq$ High school	41 (11.8)	
College students	96 (27.7)	
Some college	66 (19.1)	
College graduates	128 (37.0)	
Cigarette Smoking Status	199 (57.5)	
Smokers	147 (47.2)	
Non-smokers		
JUUL Awareness and Use		
Never heard	166 (48.0)	
Aware, but never used	108 (31.2)	
Used	58 (16.8)	

- Despite similar proportions of being aware of JUUL (white 32%; non-white 35%), a greater proportion of non-white young adults (30%) had used JUUL in comparison to white young adults (12%).
- JUUL use varied with 26% of currently enrolled college students, 15% of college graduates, 7% of those with some college education, and 5% of those with  $\leq$  high school education having used JUUL.
- About 7% of non-smokers have used JUUL in comparison to 25% of smokers.

## Results

**Table 2. JUUL Awareness and Use by Demographics**

		JUUL			Total
		Never heard	Aware	Used	
Race	White	130 (55.6)	75 (32.1)	29 (12.4)	234 (71.1)
	Non-white	34 (35.8)	33 (34.7)	28 (29.5)	95 (28.9)
	Total	164 (49.8)	108 (32.8)	57 (17.3)	329 (100.0)**
Education	$\leq$ High school	23 (56.1)	16 (39.0)	2 (4.9)	41 (12.5)
	College students	36 (37.9)	34 (35.8)	25 (26.3)	95 (28.9)
	Some college	41 (62.1)	14 (21.2)	11 (16.7)	66 (20.0)
	College graduates	64 (50.4)	44 (34.6)	19 (15.0)	127 (38.6)
	Total	164 (49.8)	108 (32.8)	57 (17.3)	329 (100.0)*
Cigarette Smoking Status	Non-smokers	90 (63.8)	41 (29.1)	10 (7.1)	141 (42.5)
	Smokers	76 (39.8)	67 (35.1)	48 (25.1)	191 (57.5)
	Total	166 (50.0)	108 (32.5)	58 (17.5)	332 (100.0)**

**Note:** Some Total Ns do not sum to total sample N due to sporadic missing data (< 5% for any given variable).

\* Indicates statistically significant associations,  $p < .01$

\*\* Indicates statistically significant associations,  $p < .001$

## Conclusions & Future Directions

- These initial findings will inform an observational study to examine reasons for JUUL interest and use, risk perceptions and beliefs, use intentions and motivation to quit among U.S. young adults age 18 to 30 years.
- Findings from the observational study will then inform the development and testing of public education messages communicating JUUL's harm and addiction risks.
- This overall study will provide optimal messaging targets for public education interventions targeting JUUL use and use of other similar electronic cigarette products.

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