

BACKGROUND

- Non-menthol characterizing flavors (ex: fruit, candy) are banned in cigarettes, yet are permitted in non-cigarette tobacco (NCT) products.
- Prior studies have focused on the links between added flavors, cigarette smoking initiation, and quit behaviors, but few have extended these concepts to include flavored NCT products.

OBJECTIVES

1. To examine associations between first use and current use of flavored tobacco products.
2. To examine associations between current flavored tobacco use and quit behaviors.

METHODS

- A random digit dial (RDD) telephone survey was completed by 1,443 adult past year tobacco users in 2012.
- Survey asked questions about first use and current use of nine tobacco products (above).
- Ever users reported first use of flavored products, while current users reported current flavored product use. Current users were asked about quit attempts made in the past 12 months and intention to quit.
- Data were weighted to reflect the U.S. adult tobacco user population.
- Chi-square and logistic regression models were used to examine associations between first/current flavor use and quit behaviors.

TOBACCO PRODUCTS



PARTICIPANT DEMOGRAPHICS

	% all respondents (n=1,443)	% current tobacco product users (n=1,254)	% used flavored product at first use (n=1,026)	% currently using flavored product (n=671)
Age				
18-24	19	17	22	26
25-34	19	19	20	23
35-44	22	23	21	20
45-54	15	17	16	13
55+	24	24	20	19
Education				
Some/Completed HS	62	62	61	63
Some University/Trade School	27	28	28	29
Completed University/Post Graduate	11	11	11	8
Gender				
Male	61	63	67	65
Female	40	37	34	35
Marital Status				
Married/cohabitating	36	37	34	33
No longer married	19	20	19	22
Never married	45	43	47	45
Race				
White, non-Hispanic	62	62	59	52
Black, non-Hispanic	16	16	19	25
Hispanic	16	15	16	18
Other, non-Hispanic	7	7	6	6
Income				
<\$30,000	41	42	39	42
\$30,000-\$59,999	23	23	22	23
\$60,000+	24	24	26	25
Refused	12	12	13	11
Polyuse				
Not a current product user	13	n/a	12	n/a
Single Product User	60	70	57	61
Polyuser	27	31	31	39

RESULTS

- Over 70% of respondents reported first use of a flavored tobacco product.
- Fifty-four percent reported current use of at least one flavored tobacco product.

Table 1: Odds of reporting (A) use of flavored tobacco product at first use and (B) current use of flavored tobacco products

		(A) First use flavored product (n=1,443 included in analysis)			(B) Current use flavored product (n=1,254 included in analysis)		
		OR	95% CI (lower, upper)	OR	95% CI (lower, upper)	OR	95% CI (lower, upper)
Age	18-24	3.02	1.90	4.81	2.08**	1.18	3.66
	25-34	2.08	1.40	3.10	2.13	1.31	3.46
	35-44	1.23	0.86	1.76	1.09	0.69	1.70
	45-54	1.98	1.31	3.00	0.54	0.34	0.87
	55+	1.00	REF	1.00	REF	1.00	REF
Education	Some/Completed HS	1.00	REF	1.00	REF	1.00	REF
	Some University/Trade School	1.81	1.34	2.46	1.20	0.85	1.70
	Completed University/Post Graduate	1.61	1.03	2.50	0.35	0.21	0.58
Gender	Male	1.00	REF	1.00	REF	1.00	REF
	Female	0.57	0.44	0.75	1.46	1.03	2.07
Marital Status	Married/cohabitating	1.00	REF	1.00	REF	1.00	REF
	No longer married	1.34	0.91	1.96	1.33	0.85	2.06
	Never married	1.21	0.88	1.66	1.03	0.71	1.50
Race	White, non-Hispanic	1.00	REF	1.00	REF	1.00	REF
	Black, non-Hispanic	3.79	2.39	6.00	5.66	3.40	9.43
	Hispanic	0.81	0.56	1.17	3.72	2.28	6.08
	Other, non-Hispanic	0.86	0.52	1.42	0.65	0.35	1.19
Income	<\$30,000	1.00	REF	1.00	REF	1.00	REF
	\$30,000-\$59,999	0.99	0.71	1.38	1.35	0.90	2.01
	\$60,000+	1.35	0.93	1.97	1.37	0.88	2.14
	Refused	1.00	REF	1.00	REF	1.00	REF
Current NCT Only User^a	No	1.00	REF	1.00	REF	1.00	REF
	Yes	1.09	0.72	1.63	1.77	1.14	2.73
	Polyuser	1.00	REF	1.00	REF	1.00	REF
1st use, any flavored tobacco product^b	Not a current product user	1.22	0.83	1.78	1.00	REF	2.97
	Single Product User	2.67	1.71	4.19	2.09	1.47	2.97
	Polyuser	1.00	REF	1.00	REF	1.00	REF

^aTobacco product spread includes: cigarettes (menthol only), e-cigarettes, cigars (all), pipe, hookah, snus, smokeless tobacco. "NCT" represents all non-cigarette tobacco products.
^bBolded values indicate statistically significant findings (p-value<0.05). ** indicates significant interaction between age and polyuse

RESULTS

- 73% of respondents reported intention to quit using tobacco, while 44% of respondents made a quit attempt in the past year.

Figure 1: Intention to quit using tobacco (A) and reported quit attempts (B) stratified by current use of a flavored tobacco product

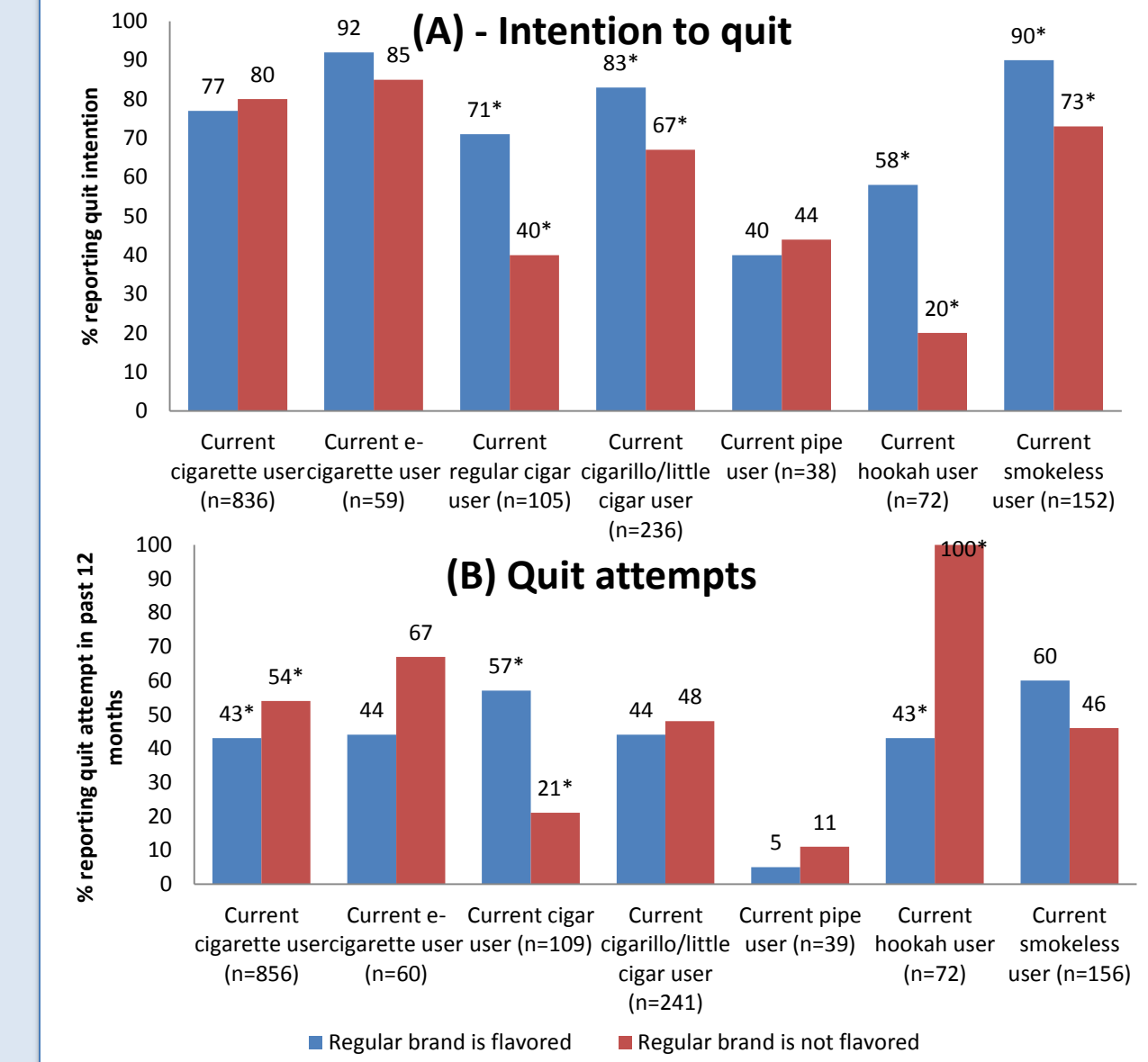


Table 2: Adjusted odds ratios for reported quit intention and attempts, among current tobacco users (n=1,254)

		Intention to Quit			Made Quit Attempt		
		OR	95% CI lower	95% CI upper	OR	95% CI lower	95% CI upper
Age	18-24	1.53	0.87	2.68	1.86**	1.17	2.96
	25-34	1.28	0.79	2.08	1.69**	1.12	2.54
	35-44	1.57	1.01	2.45	1.45	0.99	2.11
	45-54	1.45	0.90	2.45	1.45	0.96	2.17
	55+	1.00	REF	1.00	1.00	REF	1.00
Education	Some/Completed HS	1.00	REF	1.00	REF	REF	REF
	Some University/Trade School	1.54	1.07	2.21	1.21	0.91	1.63
	Completed University/Post Graduate	0.54	0.33	0.87	1.01	0.64	1.58
Gender	Male	1.00	REF	1.00	REF	REF	REF
	Female	1.54	1.09	2.18	1.08	0.82	1.43
Marital Status	Married/cohabitating	1.00	REF	1.00	REF	REF	REF
	No longer married	1.07	0.68	1.67	0.82	0.60	1.12
	Never married	1.21	0.84	1.75	1.22	0.84	1.76
Race	White, non-Hispanic	1.00	REF	1.00	REF	REF	REF
	Black, non-Hispanic	0.71	0.46	1.09	1.23	0.84	1.80
	Hispanic	4.18	2.17	8.06	1.02	0.69	1.50
	Other, non-Hispanic	0.75	0.43	1.31	1.22	0.74	2.00
Income	<\$30,000	1.00	REF	1.00	REF	REF	REF
	\$30,000-\$59,999	0.90	0.60	1.35	1.05	0.75	1.47
	\$60,000+	0.90	0.57	1.43	0.82	0.56	1.19
Current NCT Only User	No	1.00	REF	1.00	REF	REF	REF
	Yes	0.37	0.25	0.56	0.45	0.30	0.67
Polyuse	Single Product User, no flavor	1.00	REF	1.00	REF	REF	REF
	Single Product User, flavor	1.35	0.91	2.00	0.86	0.62	1.21
	Polyuser, no flavor	2.29	1.27	4.14	1.39	0.87	2.22
	Polyuser, flavor	1.26	0.80	1.97	1.57	1.08	2.27

*Denotes statistically significant difference according to x2 test of independence.

DISCUSSION

- Our findings suggest that first use of a flavored tobacco product is associated with current flavored tobacco use, and polytobacco use.
- In this study, NCT only users were nearly twice as likely to report current flavor usage than non-NCT only users.
- These findings may be relevant for developing policies related to added flavorings in tobacco products.
- Adjusted analysis suggest that engaging in quit behaviors may be attenuated for users of only NCT products, while odds of engaging in quitting behaviors may be greater for those using more than one tobacco product.
- The relationship between characterizing flavors and quit behaviors merits further exploration in large scale, population-based samples.

ACKNOWLEDGEMENTS/CONFLICTS

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