

Does dose of vaping prevention messaging impact vaping-related beliefs and behaviors in young adults?

Joaquin Reategui,¹ Julia C. West, MA,^{2,3} Catherine Peasley-Miklus, PhD,^{1,2} S. Elisha LePine,^{1,2} Rhonda Williams, MES,⁴ Andrea C. Villanti, PhD, MPH^{1,2}

1 Robert Larner, M.D. College of Medicine at the University of Vermont, 2 Vermont Center on Behavior and Health, Department of Psychiatry, University of Vermont, 3 Department of Psychological Science, University of Vermont, 4 Vermont Department of Health

BACKGROUND & AIMS

- Widespread marketing of electronic vapor products as well as perceptions of vape products as “safer alternatives” and “enhancing social interactions”, among others, have led to the popularization of these devices.
- Preliminary studies suggest that vaping prevention messaging can increase vaping-related harm perceptions.
- This study evaluated the effects of vaping-prevention message dose on vaping-related harm perceptions and beliefs in young adults (YAs).

METHODS



Policy and Communication Evaluation (PACE) Vermont Study

- 396 Vermont YAs aged 18-24 participated in both a randomized controlled trial of vaping prevention messages and an ongoing online cohort study.
- Participants were exposed to: 1) Vermont’s UNHYPED targeted digital media campaign, 2) vaping prevention messages shown to half of participants in the randomized trial, and/or 3) a vaping prevention video shown to all participants at the end of the randomized trial.
- Participants had varying levels of exposure to three types of vaping messages in Fall 2020, with dose of exposure categorized as low (0-1; n= 158), moderate (2; n=192), or high (3; n=46).

Analysis

- Prospective analyses examined associations between message dose (fall 2020) and vaping-related beliefs and harm perceptions six months later (spring 2021).

FUNDING & DISCLOSURES

- Disclosure:** The authors have nothing to disclose.
- Funding:** The PACE Vermont Study was funded by the National Institute On Drug Abuse under Award Numbers R21DA051943 and the PACE Vape Messaging Study was funded by U54DA036114. JR was supported by a summer research fellowship grant from the University of Vermont Cancer Center. The findings and/or conclusions may be inconsistent with the State’s policies, programs, and objectives. Additionally, the content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.
- Contact:** joaquin.reategui@med.uvm.edu

RESULTS

Table 1. Demographics of Vermont young adults who participated in study, by dose of vaping prevention messages

	0-1 messages N (%)	2 messages N (%)	3 messages N (%)	Total N (%)
Sex				
Male	41 (25.9)	42 (21.9)	16 (34.8)	99 (25)
Female	117 (74.1)	150 (78.1)	30 (65.2)	297 (75.0)
Race/ethnicity				
White	138 (87.3)	154 (80.2)	39 (84.8)	331 (83.6)
Non-white/other race	11 (7.0)	23 (12.0)	3 (6.5)	37 (9.3)
Hispanic	9 (5.7)	15 (7.8)	4 (8.7)	28 (7.1)
Employment status				
Work full-time (35 hours/week or more)	55 (34.8)	58 (30.2)	10 (21.7)	123 (31.1)
Work part-time (15-34 hours/week)	36 (22.8)	43 (22.4)	8 (17.4)	87 (22.0)
Work part-time (<15 hours/week)	25 (15.8)	34 (17.7)	15 (32.6)	74 (18.7)
Don't currently work for pay	42 (26.6)	57 (29.7)	13 (28.3)	112 (28.3)
Enrolled in school/degree program				
No	68 (43.0)	60 (31.3)	7 (15.2)	135 (34.1)
Yes	90 (57.0)	132 (68.8)	39 (84.8)	261 (65.9)

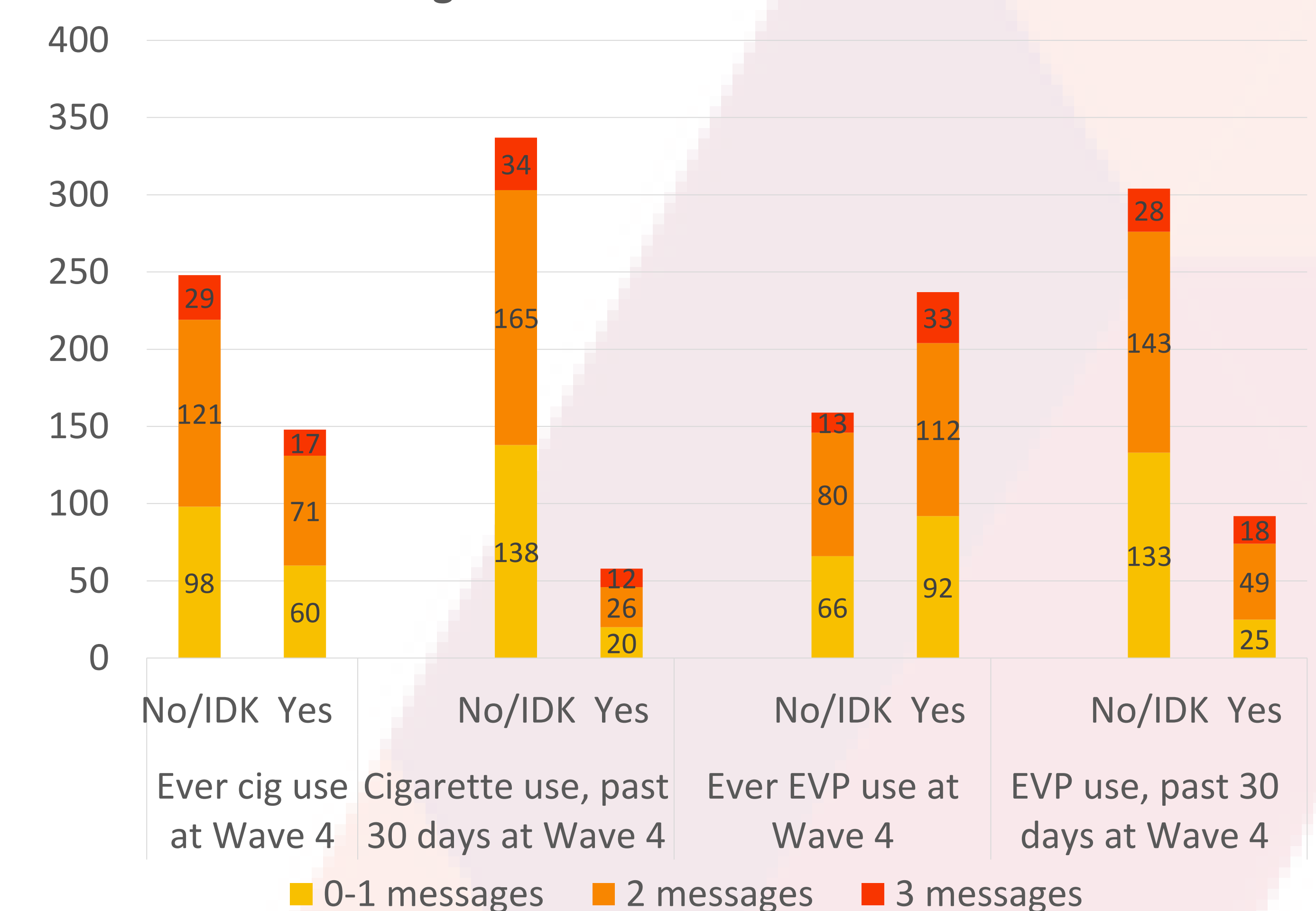
Table 2. Risk perceptions based on dose of vaping prevention messaging

	0-1 messages N (%)	2 messages N (%)	3 messages N (%)	Total N (%)
How large a part of the health risks of cigarette smoking comes from the nicotine itself				
None or a very small part	100 (63.7)	125 (65.1)	29 (63.0)	254 (64.3)
A relatively small part	23 (14.6)	23 (12.0)	13 (28.3)	59 (14.9)
A relatively large part	34 (21.7)	44 (22.9)	4 (8.7)	82 (20.8)
A very large part or all	157 (100.0)	192 (100.0)	46 (100.0)	395 (100.0)
How large a part of cancer caused cigarette smoking comes from the nicotine itself				
None or a very small part	17 (10.8)	16 (8.4)	6 (13.0)	39 (9.9)
A relatively small part	69 (43.7)	77 (40.3)	21 (45.7)	167 (42.3)
A relatively large part	51 (32.3)	79 (41.4)	15 (32.6)	145 (36.7)
A very large part or all	21 (13.3)	19 (9.9)	4 (8.7)	44 (11.1)
Risk perceptions of weekly EVP use				
No risk	4 (2.5)	0 (0.0)	2 (4.3)	6 (1.5)
Slight risk	33 (20.9)	36 (18.8)	13 (28.3)	82 (20.7)
Moderate risk	59 (37.3)	87 (45.3)	23 (50.0)	169 (42.7)
Great risk	62 (39.2)	69 (35.9)	8 (17.4)	139 (35.1)
Harm from EVPs				
Less harmful	1 (0.6)	0 (0.0)	0 (0.0)	1 (0.3)
No different	28 (17.7)	28 (14.6)	14 (30.4)	70 (17.7)
More harmful	65 (41.1)	92 (47.9)	22 (47.8)	179 (45.2)
Harm of EVPs vs. smoking cigarettes				
Less harmful	32 (20.3)	44 (22.9)	10 (21.7)	86 (21.7)
No different	94 (59.5)	115 (59.9)	30 (65.2)	239 (60.4)
More harmful	32 (20.3)	33 (17.2)	6 (13.0)	71 (17.9)
Harm of vaping nicotine vs. marijuana				
Less harmful	12 (7.6)	16 (8.3)	6 (13.0)	34 (8.6)
No different	64 (40.5)	79 (41.1)	20 (43.5)	163 (41.2)
More harmful	82 (51.9)	97 (50.5)	20 (43.5)	199 (50.3)

RESULTS

- There were few differences in baseline characteristics across groups, however the high-exposure group had the highest prevalence of past 30-day electronic vapor product (EVP) use.
- High message exposure participants had greater endorsement of the following: “One 5% vape pod can contain as much nicotine as entire pack of cigarettes” (89% vs. 71%; p = 0.022) and “a cigarette brand low in nicotine means that it is less addictive” at follow-up (28% vs. 15%; p = 0.035) compared to low-exposure YAs.
- Conversely, the high-exposure group had lower mean perceived risk from weekly EVP use at follow-up (-0.33 points; 95% CI: -0.58, -0.074).

Figure 1. Tobacco and EVP use



CONCLUSIONS

- Results suggest that greater exposure to vaping prevention messages may result in more accurate nicotine beliefs, but may not increase vaping-related harm perceptions, particularly in those already using EVPs.
- Incorporation of vaping cessation content in prevention messaging may promote greater vaping reduction in YAs.

