Identifying Promising Directions for Teen E-Cigarette Prevention Messages Among Hawai'i Teens

Emily Subialka Nowariak, MA¹; Mindy Krakow, PhD¹; Alyce Eaton, MHR¹; Sara Richter, MS¹ ; Gail Ogawa²; Weijia Shi, PhD^{3;} Sam Friedrichsen, MPH¹

¹ Professional Data Analysts; ² Hawai'i Department of Health; ³ The University of Texas at Austin

Promising beliefs for teen vaping prevention messages include addiction concerns and vaping as stress-inducing vs. -reducing.

Addressing vaping health harms, such as impacts on the brain and immune system, remains promising.

Social norms are an important area for future prevention messaging.



Aim

As part of a larger vaping prevention media campaign evaluation, we examined key perceptions, beliefs, behaviors, and vaping susceptibility among teens in Hawai'i to identify promising directions for future vaping prevention messaging.

Methods

Two waves of online surveys conducted with teens 13-18 in Hawai'i.

Wave 1 (Feb '21-Mar '21): *n* = 212 Wave 2 (Dec '21-Feb '22): *n* = 219

Primary recruitment took place via social media advertisements on Instagram/Facebook, Snapchat, and TikTok that linked to a mobile-friendly survey. Results were weighted to better reflect teens in Hawai'i by age, county, and gender.

Teens who vape or are susceptible to vaping perceive lower harms

Perceived vaping harm by susceptibility* (Wave 2)

- Overall (N=217)
- Current vaper (n=31)
- Susceptible (n=120)
- Not susceptible (n=66)

*"Susceptible" includes ever (but not current) users as well as never users who indicated susceptibility per responses to 4 validated items (Strong, et al., 2015).

Promising beliefs emphasized social, psychological, and physical consequences

69%

26% 5%

Belief statements were analyzed to identify promising beliefs associated with lower intention to vape and the greatest potential for increasing intention not to vape (Hornik & Woolf, 1999).

Percent to gain reflects the additional proportion of the teens who would have the desired intention (i.e., no intention to vape) if 100% of teens endorsed the belief.

Less promising beliefs were those that showed lower potential for changing teen intentions to vape. Some could become more promising via further exposure.

Vaping is viewed as a social norm; most teens overestimate prevalence

Across both waves, when asked what more we should know about teen vaping in Hawai'i, teens most frequently shared how prevalent vaping is.

"Almost every teen I know these days vapes, and if you don't, you're basically the – current vaper outcast."

Conclusions

- Messages that emphasize additional adverse effects beyond long-term health effects (e.g., addiction and lack of stress reduction) are likely to resonate and influence future vaping behavior. Addiction was also the most common reason for quitting.
- There is still a need for messaging to influence teens' harm perceptions of vaping, especially among teens who are highly susceptible or already vaping.



Percentage of teens who strongly agree with vaping beliefs (W

Intend to vape (n=67)Do not intend to vape (n=112)Not an effective way to reduce stress13%	
Can harm deveoping brain; attention, learning 31% 64%	
Vaping can weaken your immune system 27% 56%	
Once teens start vaping, hard to stop 31% 57%	
Least promising	
Can damage lungs, breathing issues, asthma 54%67% Can cause dizzy, headaches ("nic sick") 32%37%	
Most peers dislike when friends vape 4% 6%	
0% 25% 50% 75%	

"Everybody does it, even the people you would least expect." – susceptible teen

"Kids peer pressure you into using them \mathfrak{S}'' – never vaper

- estimate) is an important consideration for future messaging.





Addiction was the most common reason for quitting

Reasons for no longer vaping, among past vapers (Wave 2; n = 49; multi-select)

Didn't want to be addicted Worried it was bad for health Wanted to try it once or twice Didn't want to affect sports Didn't like way it made me feel Adults in life don't approve Too expensive Too hard to get Friends stopped vaping

60%
54%
52%
43%
32%
28%
23%
20%
5%

Percent	Especially promising Intend to Do not intend to vape (n=68) vape (n=118)	Percent to Gain
 to Gain 23%	Sharing vapes = sharing addiction, health risks 28% 73%	22%
 15%	Contains toxic metal, can damage brain 24% 64%	22%
14%	Not an effective way to reduce stress 16% 52%	19%
13%	Personality changes from addiction noticeable 15% 51%	19%
	Least promising	
5%	Create plastic & toxic waste 31% 58%	13%
3%	Teens are manipulated by tobacco companies 26% 48%	13%
0%	Can cause dizziness, headaches (nic sick) 31% 53%	12%

What % of teens in Hawai'i do you think vape? (Wave 2; n = 217)



• Social norms is a relatively underutilized approach with potential to impact teens. Addressing **social misperceptions of vaping** (i.e., emphasizing that vaping is actually less prevalent than teens

Consistent with recent national research on effective vaping messages, **beliefs about industry** manipulation and environmental impact were less promising for Hawai'i teens (Boynton et al., 2022).