



# Supplementary Materials: Placing Health Warnings on E-Cigarettes: A Standardized Protocol

**Table S1.** Study 1 measures.

Construct	Item	Response scale	Source
Prompt	The next question is about electronic cigarettes or e-cigarettes. You may also know them as vape-pens, hookah-pens, e-hookahs, or e-vaporizers. Some look like cigarettes, and others look like pens or small pipes. These are battery-powered, usually contain liquid nicotine, and produce vapor instead of smoke.		New item
E-cigarette use	Have you EVER used an e-cigarette EVEN ONE TIME? [If Yes, then answer next item. If No, then skip]	1=Yes 2=No	New item, adapted from PATH
E-cigarette use	Do you NOW use e-cigarettes every day, some days, or not at all?	1=Every day 2=Some days 3=Not at all	New item, adapted from PATH
E-cigarette use frequency	Think about the past week. On average, on how many days did you use an e-cigarette?	0=0 days 1=1 day 2=2 days ... 7=7 days	New item, adapted from PATH
E-cigarette use intensity	On days when you used an e-cigarette, about how many puffs did you take?	# of puffs: _____	New item, adapted from PATH
No. of devices	How many different e-cigarette devices do you own <u>and</u> use regularly? This includes vape pens, mods, and other vaping devices.	0=None 1=1 device 2=2 devices ... 7=7 or more devices	New item
Type of refills	In the past 30 days, what refills did you use for your e-cigarette? Check all that apply.	1=E-liquid that I pour in the tank 2=Pre-filled cartridges 3=I use e-cigarettes that are not refillable (I throw them away when I'm done) 4=Other (specify) _____	New item
Willing to have device & refill labeled	<p><b>E-cigarette health warning study</b></p> <p>Imagine you have been recruited to participate in a new research study. In this study, you would come to the research office every week for 4 weeks, and a sticker with a health warning would be put on your e-cigarette. During the study, you'd use the labeled e-cigarette as you normally would. You would get up to \$300 for being in the study.</p> <p>As part of the study, would you be willing to have a warning sticker on your...</p> <ol style="list-style-type: none"> <li>1. E-cigarette</li> <li>2. Package your e-cigarette came in</li> <li>3. Refills (e-liquid bottles or cartridges)</li> <li>4. Package for e-liquids or cartridges</li> </ol>	1=Yes 2=Not sure 0=No	New item
Able to bring in 8-day supply	Do you think you would be able to bring 8 days' worth of e-cigarette refills to each appointment? This would be	1=Yes 2=Not sure 0=No	New item

	whatever you usually use, such as e-liquid bottles, cartridges or disposable e-cigarettes.	3=Does not apply: I only use other people's e-cigarettes	
E-cigarette quit attempt	In the past <u>week</u> , did you stop using your e-cigarette for 1 day or longer because you were trying to quit using e-cigarettes?	1=Yes 0=No	Adapted from CDC ATS, 2008
Age	How old are you?	1=18 to 24 years old 2=25 to 29 years old 3=30 to 44 years old 4=45 to 59 years old 5=60 years old or older	Adapted from 2010 Census
Sex	What sex were you assigned at birth, on your original birth certificate? Was it ...	1=Male 2=Female	Modified Williams Institute item, 2009
Gender identity	Do you describe yourself as ...	1=Male 2=Female 3=Transgender 4= Other (please specify)	Modified Williams Institute item, 2009
Sexual orientation	The next question is about your sexual orientation. Do you consider yourself to be ...	1=Straight or heterosexual 2=Gay or lesbian 3=Bisexual	Adapted from Williams Institute item, 2009
Ethnicity	Are you of Hispanic, Latino, or Spanish origin?	0=No 1=Yes	Adapted from 2010 Census
Race	Which one of these groups would you say best represents your race?	1=White 2=Black or African American 3=American Indian or Alaska Native 4=Asian 5=Pacific Islander 6= Other (please specify)	Adapted from 2013 BRFSS
Education	What is the highest degree or level of school you have completed?	1=Less than high school degree 2=High school graduate (or GED) 3=Some college or technical school 4=Associate's degree 5=Bachelor's degree 6=Graduate or professional degree	Adapted from 2010 Census
Cigarette use	Have you smoked at least 100 cigarettes in your entire life?	1=Yes 0=No	Adapted from 2013 BRFSS
Cigarette use	Do you now smoke cigarettes every day, some days or not at all?	2=Every day 1=Some days 0=Not at all	Adapted from 2013 BRFSS and PATH

Table S2. Study 2 measures.

Construct	Item	Response scale	Source
Prompt	First we are going to ask you about e-cigarettes and other vaping devices, such as vape pens and mods. These devices are battery-powered and produce vapor instead of smoke. Some have nicotine in the liquid, others do not. We will call these devices “e-cigarettes” in this survey.		New item
E-cigarette use	Think about the past week. On average, on how many days did you use an e-cigarette?	0=0 days 1=1 day 2=2 days ... 7=7 days	New item, adapted from PATH
E-cigarette use	On days when you used an e-cigarette, about how many puffs did you take?	____ puffs	New item, adapted from PATH
Exposure	Think about the past week. When you used an e-cigarette, how much of the time did you use the e-cigarette we labeled? (Circle a number)	[Number line 0 -100% 0= labeled None of the time 50= labeled Half of the time 100= labeled All of the time]	New item
Quit attempt	In the past <u>week</u> , did you stop using your e-cigarette for 1 day or longer because you were trying to quit using <u>e-cigarettes</u> ?	1= Yes 0= No	New item
Process	Overall, how difficult or easy was it to be in this study?	1=Very difficult 2=Difficult 3=Neither difficult nor easy 4=Easy 5=Very easy	Adapted from Brewer et al., 2015
Process	How difficult or easy was it to bring in your e-cigarette each week?	1=Very difficult 2=Difficult 3=Neither difficult nor easy 4=Easy 5=Very easy	Adapted from Brewer et al., 2015
Process	How difficult or easy was it to bring in your refills each week?	1=Very difficult 2=Difficult 3=Neither difficult nor easy 4=Easy 5=Very easy 6=Not applicable	Adapted from Brewer et al., 2015
Process	If you had the chance, would you participate in this study again?	1=Definitely not 2=Probably not 3=Maybe 4=Probably yes 5=Definitely yes	Adapted from Brewer et al., 2015
Process	Would you recommend this study to a friend?	1=Definitely not 2=Probably not 3=Maybe 4=Probably yes 5=Definitely yes	Adapted from Brewer et al., 2015
Prompt	The next questions are about the warning label we put on your e-cigarette.		
Process	How easy was the label to read?	1=Not at all 2=A little 3=Somewhat 4=Very 5=Extremely	New item
Negative affect	How much did the warning on your e-cigarette make you feel...	1=Not at all 2=A little 3=Somewhat	Adapted from Nonnemaker et al., 2010

	Anxious?	4=Very 5=Extremely	
Negative affect	How much did the warning on your e-cigarette make you feel...  Sad?	1=Not at all 2=A little 3=Somewhat 4=Very 5=Extremely	Adapted from Watson, 1988
Negative affect	How much did the warning on your e-cigarette make you feel...  Scared?	1=Not at all 2=A little 3=Somewhat 4=Very 5=Extremely	Adapted from Nonnemaker et al., 2010, and Watson, Clark, and Tellegen (1988)
Negative affect	How much did the warning on your e-cigarette make you feel...  Guilty?	1=Not at all 2=A little 3=Somewhat 4=Very 5=Extremely	Adapted from Nonnemaker 2010 and Keller and Block, 1996, and Watson, Clark, and Tellegen, 1988
Negative affect	How much did the warning on your e-cigarette make you feel...  Disgusted?	1=Not at all 2=A little 3=Somewhat 4=Very 5=Extremely	Adapted from Nonnemaker et al., 2010
Prompt	Say how much you agree or disagree with the next statements about the warning on your e-cigarette.		
Perceived effectiveness	The warning makes me concerned about the health effects of using e-cigarettes.	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	Brewer et al., 2018 and Baig et al., (under review)
Perceived effectiveness	The warning makes using e-cigarettes seem unpleasant to me.	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	Brewer et al., 2018 and Baig et al., (under review)
Perceived effectiveness	The warning discourages me from wanting to use e-cigarettes.	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	Brewer et al., 2018 and Baig et al., (under review)
Cognitive elaboration	When you noticed your e-cigarette, how often did you think about the information that the warning conveys?	1=Never 2=Rarely 3=Sometimes 4=Often 5=All the time	Adapted from Hammond et al., 2003
Cognitive elaboration	How much did the warning cause you to think about the harmful effects of using e-cigarettes?	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	Adapted from Borland et al., 2009
Attention/noticing	In the past week, how often did you notice the warning?	1=Never 2=Rarely 3=Sometimes 4=Often 5=All the time	Adapted from Nonnemaker et al., 2010

Attention/noticing	In the past week, how often did you read or look closely at the warning?	1=Never 2=Rarely 3=Sometimes 4=Often 5=All the time	Adapted from Nonnemaker et al., 2010
Cognitive elaboration	When your e-cigarette is not in sight, how often do you think about the message that the warning conveys?	1=Never 2=Rarely 3=Sometimes 4=Often 5=All the time	Adapted from Hammond et al., 2003
Prompt	The next questions are about talking with other people.		
Social interactions	Who did you talk to about the warning? (Check all that apply)	1=My spouse or significant other 2=My child 3=Other family member 4=Friend 5=Co-worker 6=Health care provider 7=Someone I did not previously know 8=Other 9=I did not talk to anyone about the warning	Adapted from Hall et al. (2015) and Morgan et al. (In press)
Social interactions	Think about the conversations you had about the warning. Who did you talk to <u>the most</u> about the warning?	1=My spouse or significant other 2=My child 3=Other family member 4=Friend 5=Co-worker 6=Health care provider 7=Someone I did not previously know 8=Other	Adapted from Hall et al. (2015) and Morgan et al. (In press)
Social interactions	Think about the conversations you had about the warning. What came up during these conversations? (Check all that apply)	1=The health problems caused by using e-cigarettes 2=The chemicals in e-cigarette vapor 3=The information in this warning is new to me 4=The warning makes me want to quit using e-cigarettes 5=The warning would make other e-cigarette users want to quit using e-cigarettes 6=The warning would stop people from starting to use e-cigarettes 7=The warning should be on e-cigarettes 8=Made fun of the warning 9=This research study, specify: _____ 10=None of the above 11=Other: _____	Adapted from Hall et al., 2015 and Morgan et al., (In press)

Social interactions	Think about the conversations you had about the warning. Would you say that in general these conversations were...	1=Mostly positive 2=Mostly negative 3=Somewhere in between	New item
Social interactions	Think about the conversations you had about the warning. Did you or the other person say that the message made you feel... (Check all that apply)	1=Anxious 2=Sad 3=Scared 4=Guilty 5=Disgusted 6=None of the above	Adapted from Hall et al., 2015 and Morgan et al., (In press)
Social interactions	In the past week, how many times did you talk to others about the <u>health problems</u> caused by using e-cigarettes?	_____ times	Adapted from Hall et al., 2015 and Morgan et al., (In press)
Social interactions	In the past week, how many times did you talk to others about the <u>addictiveness</u> of e-cigarettes?	_____ times	Adapted from Hall et al., 2015 and Morgan et al., (In press)
Social interactions	In the past week, how many times did you talk to others about <u>quitting</u> e-cigarettes?	_____ times	Adapted from Hall et al., 2015 and Morgan et al., (In press)
Reactance	Please say how much you agree or disagree with each statement below about the warning we put on your e-cigarette and refills.  This warning is trying to manipulate me.	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	Hall et al., 2017
Reactance	This warning annoys me.	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	Hall et al., 2017
Reactance	This warning is overblown.	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	Hall et al., 2017
Worry	How worried are you about your health because of your e-cigarette use?	1=Not at all 2=A little 3=Fairly 4=Very 5=Extremely	Modified from Dijkstra, 2003 and Ranby, 2013
Worry	How anxious do you feel when you think of the possible consequences of your e-cigarette use?	1=Not at all 2=A little 3=Fairly 4=Very 5=Extremely	Modified from Dijkstra, 2003 and Ranby, 2013
Worry	How worried are you that your e-cigarette use bothers people who don't use e-cigarettes?	1=Not at all 2=A little 3=Fairly 4=Very 5=Extremely	Adapted from Magnan, 2009 and Magnan, 2013
Worry	How worried are you that your e-cigarette use can be harmful to other people?	1=Not at all 2=A little 3=Fairly 4=Very 5=Extremely	Adapted from Magnan, 2009 and Magnan, 2013
Ecig user prototypes (prompt)	How much do the following characteristics describe a typical e-cigarette user your age?		Adapted from McCool et al., 2004, McCool et al., 2011,

			and Pepper et al., 2013
Ecig user prototypes	Cool	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Disgusting	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Healthy	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Smart	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Sexy	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Unattractive	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Immature	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Ecig user prototypes	Inconsiderate	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	“
Quit intentions	How likely are you to quit using e-cigarettes in the next month?	1=Not at all likely 2=A little likely 3=Somewhat likely 4=Very likely	Adapted from Klein et al., 2009
Quit intentions	How much do you plan to quit using e-cigarettes in the next month?	1=Not at all 2=A little 3=Somewhat 4=Very much	Adapted from Klein et al., 2009
Quit intentions	How interested are you in quitting e-cigarettes in the next month?	1=Not at all interested 2=A little interested 3=Somewhat interested 4=Very interested	Adapted from Klein et al., 2009
Forgoing an e-cigarette	In the past week, how often have you stopped yourself from using an e-cigarette because you wanted to <u>cut back</u> ?	1=Never 2=1-2 times 3=3-4 times 4=5-9 times 5=10 or more times	Adapted from Borland & Hill, 1997) and Li, 2014

Prompt	The next questions are about cigarettes.		
Cigarette use	Have you smoked at least 100 cigarettes in your entire life?	1=Yes 0=No	BRFSS
Cigarette use	Do you now smoke cigarettes every day, some days or not at all?	2=Every day 1=Some days 0=Not at all	BRFSS
Smoking frequency	On how many of the past 7 days did you smoke cigarettes?	0=0 days 1=1 day 2=2 days 3=3 days 4=4 days 5=5 days 6=6 days 7=7 days	PATH, 2014
Smoking quantity	On average, on the days you smoked, how many cigarettes did you usually smoke <u>each day</u> ? A pack usually has 20 cigarettes in it.	___ cigarettes <u>per day</u> <input type="checkbox"/> Does not apply to me. I did not smoke.	Modified PATH, 2014
Prompt	The next questions will help us understand the diverse population in this study. Your survey responses are completely confidential.		New item
Sex	What sex were you assigned at birth, on your original birth certificate?	1=Male 2=Female	Adapted from Williams Institute, 2009
Gender identity	How do you describe your gender identity?	1=Male 2=Female 3=Transgender 4=Other gender identity, specify: _____	Adapted from Williams Institute, 2009
Sexual orientation	The next question is about your sexual orientation. Do you consider yourself to be...	1=Straight or heterosexual 2=Gay or lesbian 3=Bisexual	Adapted from Williams Institute, 2009
Age	How old are you?	___ years old	Adapted from 2010 Census
Ethnicity	Are you of Hispanic, Latino or Spanish origin?	1=Yes 2=No	Adapted from 2010 Census
Race	What is your race? (Check all that apply)	1=White 2=Black or African American 3=American Indian or Alaska Native 4=Asian 5=Native Hawaiian or Other Pacific Islander 6=Some other race, specify: _____	Adapted from 2013 BRFSS
Education	What is the highest degree or level of school you have completed?	1=Less than high school degree 2=High school graduate (or GED) 3=Some college or technical school 4=Associate's degree 5=Bachelor's degree 6=Graduate or professional degree	Adapted from 2010 Census
Income	Which of the following categories best describes your total household income in the past 12 months?	1=Less than \$10,000 2=\$10,000 to \$14,999 3=\$15,000 to \$24,999	Adapted from 2010 Census and 2013 BRFSS



		4=\$25,000 to \$34,999 5=\$35,000 to \$49,999 6=\$50,000 to \$74,999 7=\$75,000 to \$99,999 8=\$100,000 to \$149,999 9=\$150,000 to \$199,999 10=\$200,000 or more	
--	--	--	--