



Preference for gain- or loss-framed electronic cigarette prevention messages



Grace Kong^{a,*}, Dana A. Cavallo^a, Deepa R. Camenga^b, Meghan E. Morean^{a,c}, Suchitra Krishnan-Sarin^a

^a Yale University School of Medicine, Department of Psychiatry, New Haven, CT 06519, United States

^b Yale University School of Medicine, Department of Pediatrics, New Haven, CT 06520, United States

^c Oberlin College, Department of Psychology, Oberlin, OH 44074, United States

HIGHLIGHTS

- Loss-framing was preferred for themes on health risks, addiction, and social label.
- Gain-framing was preferred for themes related to financial cost.
- Females, relative to males, preferred loss-framed messages for all themes.
- Ever e-cigarette users, relative to non-users, preferred loss-framed health risks and social label themes.
- High-school students, relative to college students, preferred gain-framed social label theme.

ARTICLE INFO

Article history:

Received 2 December 2015

Received in revised form 4 June 2016

Accepted 10 June 2016

Available online 11 June 2016

Keywords:

Message framing
Electronic cigarettes
Gender
Prevention
Adolescents
Young adults

ABSTRACT

Background: Effective electronic cigarette (e-cigarette) prevention messages are needed to combat the rising popularity/uptake of e-cigarettes among youth. We examined preferences for e-cigarette prevention messages that either emphasized gains (e.g., You save money by not using e-cigarettes) or losses (e.g., You spend money by using e-cigarettes) among adolescents and young adults.

Methods: Using surveys in two middle schools, four high schools, and one college in CT ($N = 5405$), we assessed students' preferences for gain- or loss-framed e-cigarette prevention messages related to four themes: financial cost, health risks, addiction potential, and social labeling as a smoker. We also assessed whether preferences for each message framing theme differed by sex, school level, cigarette-use status, and e-cigarette use-status. We also examined whether preference for message framing differed by cigarette and e-cigarette susceptibility status among never e-cigarette users.

Results: Overall, loss-framing was preferred for message themes related to health risks, addiction potential, and social labeling as a smoker, whereas gain-framing was preferred for message themes related to financial cost. Logistic regression analyses showed that 1) females preferred loss-framed messages for all themes relative to males, 2) lifetime e-cigarette users preferred loss-framed health risks and social labeling messages relative to never users, and 3) high school students preferred gain-framed social labeling messages relative to college students. The preference for message framing did not differ by cigarette or e-cigarette susceptibility.

Conclusions: Preference for message framing differed by themes and individual characteristics. This formative research could inform the construction of persuasive e-cigarette prevention messages.

© 2016 Published by Elsevier Ltd.

1. Introduction

Electronic cigarette (e-cigarette) use rates are high among adolescents (Arrazola, Neff, Kennedy, et al., 2014; Arrazola, Singh, Corey, et al., 2015; Johnston, O'Malley, Miech, et al., 2015; Krishnan-Sarin, Morean, Camenga, et al., 2015) and young adults (Pokhrel, Little,

Fagan, et al., 2014; Sutfin, McCoy, Morrell, et al., 2013). National data show that past-30-day e-cigarette use among high school (HS) students increased from 1.5% in 2011 to 13.4% in 2014, surpassing cigarette smoking rates (Arrazola et al., 2015).

E-cigarette use among youth is concerning because of potential harm of nicotine toxicity and the impact of nicotine on the adolescent brain (Dwyer, McQuown, & Leslie, 2009). The unknown health consequences of long-term e-cigarette use, with some laboratory findings showing concerns that e-cigarette vapor may trigger lung inflammatory responses (Wu, Jiang, Minor, et al., 2014), warrant e-cigarette

* Corresponding author at: Department of Psychiatry, Yale School of Medicine, 34 Park Street, Room S-211, New Haven, CT 06519, United States.
E-mail address: Grace.Kong@yale.edu (G. Kong).

prevention efforts directed at youth. Despite the potential adverse health effects, e-cigarettes continue to be popular among youth. The increasing popularity of e-cigarettes among youth may not be surprising given that e-cigarettes are marketed aggressively through a variety of mass media outlets, including popular youth-oriented social media sites (e.g., YouTube, Twitter) (Andrade, Hastings, & Angus, 2013; Huang, Kornfield, Szczypka, et al., 2014; Paek, Kim, Hove, et al., 2014; Richardson, Ganz, & Vallone, 2014).

E-cigarette marketing emphasizes themes that appeal to youth such as enticing flavors, promotion of e-cigarettes as a healthier and safer alternative to cigarettes, and the use of celebrity endorsements (Grana & Ling, 2014; Rooke & Amos, 2013). E-cigarette marketing is reaching youth; 70% middle school (MS) and 61% high school (HS) students in Connecticut reported seeing e-cigarette advertisements in multiple locations including billboards, social media, and TV (Krishnan-Sarin et al., 2015). However, there are few prevention campaigns aimed at reducing youth e-cigarette use. Given the widespread pro-e-cigarette messages available to youth (Duke, Lee, Kim, et al., 2014) and the exponential rise in the use of these products (Arrazola et al., 2015), developing and disseminating effective e-cigarette prevention messages to adolescents and young adults are needed.

Development of e-cigarette prevention messages could be informed by the successful aspects of anti-smoking campaigns. For instance, the use of age appropriate themes is important components of effective anti-smoking campaigns (Farrelly, Niederdeppe, & Yarsevich, 2003). Themes that appeal specifically to youth include emphasis on the short-term adverse health effects of smoking (e.g., shortness of breath, inability to play sports) and cosmetic consequences (e.g., bad breath, stained teeth) relative to long-term effects (e.g., lung cancer) (Farrelly et al., 2003). Research also indicates that prevention messages can be made more effective through appropriate framing (see review by Gallagher & Updegraff, 2012). Message framing, guided by the Prospect Theory (Tversky & Kahneman, 1981), posits that gain-framed messages, which emphasize the benefits of engaging or not engaging in a behavior, should be more effective for preventing behaviors that have clear, certain outcomes like engaging in physical exercise (Latimer, Rench, Rivers, et al., 2008) and using sunscreen (Detweiler, Bedell, Salovey, et al., 1999). Conversely, loss-framed messages, which emphasize the costs of engaging or not engaging in a behavior, should be more effective for preventing behaviors with riskier, less certain outcomes such as disease detection.

Preference for message framing has been used to construct persuasive prevention messages to target populations to promote health behaviors (Schneider, 2006). Previous research assessed preference for loss- vs. gain-framed messages to develop cigarette smoking cessation messages, which was then used to tailor effective smoking cessation interventions for youth smokers (Latimer, Krishnan-Sarin, Cavallo, et al., 2012). Furthermore, there is compelling literature showing that message framing affects beliefs, intentions and behaviors (e.g., 27). Message framing also has been used successfully in smoking cessation messages (Fucito, Latimer, Salovey, et al., 2010; Toll, Salovey, O'Malley, et al., 2008; Wong & McMurray, 2002; Moorman & van den Putte, 2008; Latimer et al., 2012). For instance, smokers in a smoking cessation trial were randomly assigned to receive gain-framed messages or loss-framed messages. The findings of this randomized control trial (RCT) showed that smokers in the condition that received gain-framed messages were more likely to be abstinent than those who received loss-framed messages (Toll, O'Malley, Katulak, et al., 2007). However, before assessing the predictive validity of these messages, formative work is needed to accurately formulate the message content and choose appropriate framing.

Current evidence suggests that the persuasiveness of message framing may differ based on individual characteristics. For instance, prior research has highlighted sex differences in preference for loss- versus gain-framed messages (Toll et al., 2008). Specifically, adult females who perceived relatively low risk associated with engaging in

unhealthy behaviors, like smoking, preferred gain-framed smoking cessation messages compared to females who perceived high risk associated with engaging in unhealthy behaviors; males preferred gain-framed smoking cessation messages irrespective of risk perception. The effectiveness of loss- versus gain-framed messages also seems to be different for adults and adolescents. Among adult smokers, gain-framed smoking prevention messages are more effective in reducing cigarette smoking (Fucito et al., 2010; Wong & McMurray, 2002) and influencing smoking-related beliefs (Schneider, Salovey, Pallonen, et al., 2001). However, among adolescent smokers, loss-framed smoking prevention messages are more effective in influencing smoking-related attitudes and behavioral intentions (Latimer et al., 2012; Goodall & Appiah, 2008).

Given the importance of developing appropriately framed prevention messages to maximize persuasiveness, the primary goal of this formative research is to gain insight into adolescents' and young adults' preferences for loss- or gain-framed e-cigarette prevention themes. The current study used themes identified using prior qualitative work, in which we conducted focus groups with adolescents and young adults to derive themes that may be important to emphasize in e-cigarette prevention messages targeting youth (e.g., health risks, cost, addiction potential, social labeling as a smoker) (Cavallo, Kong, Ells, et al., 2015). These themes were then framed in gain- and loss-contexts and preferences for these loss- and gain-framed messages were then examined using surveys among adolescents and young adults.

Based on previous studies showing that the effect of message framing differs by individual characteristics (described above), our secondary objective was to examine if message-framing preference differed by sex, race, e-cigarette use status, cigarette use status, and school level (i.e., middle school, high school, and college students). Finally, we examined whether preference for message framing differed by e-cigarette susceptibility status among never e-cigarette users. Identifying relevant prevention messages for youth who are susceptible to future use is important, as prevention efforts would be targeting this group.

We hypothesized that gain-framed messages would be preferred over loss-framed message in all themes based on the aforementioned literature suggesting that gain-framed messages are more effective for prevention messages targeted toward behaviors that are deemed less risky. Although youth preferred loss-framed cigarette prevention messages (Latimer et al., 2012), youth may prefer gain-framed messages for e-cigarettes because they perceive e-cigarettes to be less harmful than cigarettes (Ambrose, Rostron, Johnson, et al., 2014). We also explored demographic (e.g., sex, school level) and cigarette-/e-cigarette-use status differences based on previous literature showing that individual characteristics are important in determining message framing. However, given the relative novelty of e-cigarettes, we did not make any hypotheses related to demographics or cigarette-/e-cigarette-use status.

2. Methods

2.1. Procedures

Detailed study procedures have been described previously (Krishnan-Sarin et al., 2015; Kong, Morean, Cavallo, et al., 2015). However, in brief, we surveyed four Connecticut HSs ($N = 3614$) and two MSs ($N = 1166$) in Fall 2013 that represented a wide range of District Reference Groups (i.e., DRGs; groupings based on student enrollments and socioeconomic factors like median family income, and family structure). We subsequently conducted a survey in one Connecticut public university ($N = 625$) in Spring 2014.

The Institutional Review Board of Yale University and the participating schools approved all study procedures. Passive parental permission procedures were used in MSs and HSs. In the MSs/HSs, paper and pencil surveys were administered by the teachers to the entire student body during homerooms/advisories. In the college, we recruited participants

Download English Version:

<https://daneshyari.com/en/article/7259939>

Download Persian Version:

<https://daneshyari.com/article/7259939>

[Daneshyari.com](https://daneshyari.com)