



Short Communication

Believability of new diseases reported in the 2014 Surgeon General's Report on smoking: Experimental results from a national survey of US adults



Diane B. Francis ^{a,*}, Seth M. Noar ^{b,c}, Sarah D. Kowitt ^d, Kristen L. Jarman ^c, Adam O. Goldstein ^{c,e}

^a *Manship School of Mass Communication, Louisiana State University, Baton Rouge, LA 80803, USA*

^b *School of Media and Journalism, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA*

^c *Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA*

^d *Department of Health Behavior, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA*

^e *Department of Family Medicine, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA*

ARTICLE INFO

Article history:

Received 13 July 2016

Received in revised form 3 January 2017

Accepted 31 January 2017

Available online 09 February 2017

Keywords:

Smoking

Campaigns

Health communication

Message

Source

ABSTRACT

Background. Tobacco use is the leading cause of preventable disease and death globally. The 2014 Surgeon General's Report included new diseases linked to smoking, including liver and colon cancer, diabetes and tuberculosis. As more diseases are linked to smoking, which diseases should we communicate to the public and what message source has the most impact?

Methods. Data were collected through a nationally representative phone survey of US adults ($N = 5014$), conducted from September 2014 through May 2015. We experimentally randomized participants to a 2 (new smoking disease messages - liver and colon cancers compared to diabetes and tuberculosis) by 4 (message sources - CDC, FDA, Surgeon General, and none) experiment. The outcome was message believability.

Results. About half the sample was female (51.5%) and 17.8% were a current smoker. Overall, 56% of participants said the messages were very believable. Cancer messages (liver and colon cancer) were significantly more believable than messages about chronic disease (tuberculosis and diabetes), 61% vs. 52%. Smokers were less likely to report both sets of new disease messages as very believable compared to non-smokers. Significantly more smokers intending to quit (44.5%) found the messages to be very believable compared to smokers not intending to quit (22.6%). Believability did not differ by message source.

Conclusion. Important differences exist in believability of disease messages about new tobacco-related information. Messages emphasizing the causal link between smoking and new diseases should be considered for use in mass media campaigns.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

Mass media campaigns are integral to tobacco control efforts, and they have the potential to prevent initiation and reduce the prevalence of tobacco use (US Department of Health and Human Services, 2004; Noar, 2006; McAfee et al., 2013). Research suggests messages about the negative health consequences of smoking can be effective at influencing message processing and quit behaviors (Durkin et al., 2012). Negative health consequences of smoking include diseases such as lung, bladder and stomach cancers, cardiovascular disease, respiratory disease, and reproductive complications (US Department of Health and Human Services, 2004; US Department of Health and

Human Services, 2014). Smoking can also exacerbate chronic diseases such as pneumonia and respiratory tract infections (US Department of Health and Human Services, 2004; World Health Organization, 2012). Smoking can further result in increased risk of premature mortality (US Department of Health and Human Services, 2014).

The 2014 Surgeon General's Report included ten new diseases causally linked to smoking, including liver and colon cancers, diabetes and tuberculosis (US Department of Health and Human Services, 2014).¹ While previous Surgeon General's Reports have reviewed some of those diseases (diabetes, for example) (US Department of Health and Human Services, 2004), the 2014 report was the first to establish a

* Corresponding author at: Manship School of Mass Communication, 249 Hodges Hall, Louisiana State University, Baton Rouge, LA 70803, USA.
E-mail address: diane francis@lsu.edu (D.B. Francis).

¹ The Surgeon General's report included new health consequences with causal links to smoking: Liver cancer, colorectal cancer, age-related macular degeneration, congenital defects, tuberculosis, diabetes, ectopic pregnancy, male sexual function, rheumatoid arthritis, and immune function.

direct, causal relationship between those diseases and smoking (US Department of Health and Human Services, 2014). As more diseases are linked to smoking, which diseases should we communicate to the public? Studies from other tobacco prevention research suggests when information about new diseases linked to smoking is communicated to the public, increases in awareness (Miller et al., 2011), smoking-related knowledge (Noar et al., 2016), risk perceptions (Swayampakala et al., 2015), and quit behaviors follow (Swayampakala et al., 2015). Messages about new diseases can potentially draw upon prior knowledge and beliefs to persuade smokers that smoking is even more dangerous than previously thought. Thus, it is important to investigate which messages about new diseases causally linked to smoking the public finds most believable.

Message believability, a component of the elaboration likelihood model (Chaiken, 1980; Petty and Cacioppo, 1986), has been shown to influence perceived and actual message effectiveness (Cornacchione and Smith, 2012; Kim, 2006). Message believability is also associated with knowledge, attitudes and beliefs (Yale, 2013), and is an important mediator between message exposure and subsequent smoking-related behaviors (Cornacchione and Smith, 2012; Kim, 2006). One study assessing the effects of message believability showed that message believability was associated with intention to engage in smoking cessation behaviors (Cornacchione and Smith, 2012). This suggests that assessing message believability during formative research could aid in the development of better promotion or marketing messages for smoking education campaigns, especially if those campaigns communicate the source or sponsor of the messages (Yale, 2013). Large-scale smoking campaigns, in turn, can impact downstream smokers' behaviors such as cessation and quit behaviors (McAfee et al., 2013; Durkin et al., 2012). Thus, one way to increase message processing is through message believability (Cornacchione and Smith, 2012).

Source factors also affect message effectiveness (Samu and Bhatnagar, 2008; Schmidt et al., 2016). Messages from more believable sources may be more persuasive, and thus have more impact, than those from sources deemed not believable (Petty and Cacioppo, 1986; Schmidt et al., 2016). The processes by which source factors influence message processing are also explicated in the elaboration likelihood model of persuasion (Petty and Cacioppo, 1986). In prior research, message source influenced the perceived impact of tobacco education messages (Bansal-Travers et al., 2011). However, the effect of source factors has mainly been investigated between contrasting sources such as non-profits and the tobacco industry (Byrne et al., 2012).

So, does source matter in the believability of new information about tobacco-caused chronic diseases? And if so, from which source should messages be attributed in a communication campaign. In this study, we investigated believability of messages communicated from three government sources. The Surgeon General and Centers for Disease Control and Prevention (CDC) have wide-ranging experience communicating smoking health risks to the public (McAfee et al., 2013; US Department of Health and Human Services, 2014; Alberg et al., 2014; Antman et al., 2014). And, while both the CDC and the Food and Drug Administration (FDA) have conducted national mass media campaigns aimed at preventing smoking in the past few years (McAfee et al., 2013), the FDA has only recently started communicating about the health consequences of smoking. Lastly, outside of a few nonprofit organizations, government sources are the ones most likely to communicate about the health consequences of smoking to the wider public (Samu and Bhatnagar, 2008). The public, therefore, may have differing perceptions about messages communicated from these government sources, and this is important to understand to aid government agencies in making their communications as impactful as possible.

We posit that considering information about new diseases was included in the 2014 Surgeon General's Report, the public may be most likely to believe the messages if they were attributed to the Surgeon General (Alberg et al., 2014; Antman et al., 2014; Blum, 2014). It is also possible other sources could be equally or even more persuasive,

such as the CDC or FDA (Samu and Bhatnagar, 2008). To that end, we conducted an experiment to 1) determine the believability of messages about new diseases linked to smoking in the 2014 Surgeon General's Report and 2) examine the influence of message source on believability of those messages among US adults.

2. Methods

2.1. Sample and measures

Data were collected through a nationally representative phone survey of US adults, which used two independent and non-overlapping random digit dialing frames (both landline and cell-phone), representing ~98% of total households. The survey was conducted from September 2014 through May 2015, and assessed regulatory constructs such as tobacco product use, tobacco constituent perceptions, and tobacco regulatory agency credibility. Low-income respondents and individuals living in higher cigarette use regions were oversampled. Specifically, both random digit dialing frames were stratified by household income and smoking rates at the county-level, where the poorest counties with the highest smoking rates were oversampled. In addition, to maximize the number of young adults (<25 years), cell phone numbers were oversampled. Within the landline frame, if more than one eligible adult resided in the household, young adults and smokers were sampled at a higher rate than older adult nonsmokers. A total of 5014 participants over the age of 18 completed the survey. The weighted response rate—calculated using American Association for Public Opinion Research (AAPOR) Response Rate 4—was 42%, which is comparable to other national tobacco surveys (Agaku et al., 2014; Behavioral Risk Factor Surveillance System, 2014). Using AAPOR standards, the response rate is the number of respondents who completed the survey as a proportion of all eligible and likely-eligible persons. Sample weights were computed to adjust for non-response and calibrate the sample to population counts on the following variables: census region, age, education, gender, ethnicity, phone type, and regional smoking rates. For more details on the sampling and data collection procedures, please refer to Boynton et al. (2016).

The survey included a 2 (disease type) by 4 (source) experiment. For disease type, we tested two new cancers (liver and colon) and two new well-known chronic diseases (diabetes and tuberculosis) reported as causally linked to smoking in the 2014 Surgeon General's Report. Both of these chronic diseases and cancers the public has heard about and likely has concerns (Salinas et al., 2016; Menke et al., 2015; U.S. Cancer Statistics Working Group, 2016). Participants were randomly assigned to one of two messages: Message 1 (The [source] recently linked smoking cigarettes to more diseases, such as liver cancer and colon cancer) or Message 2 (The [source] recently linked smoking cigarettes to more diseases, such as tuberculosis and diabetes).

For source type, messages were from one of four randomly assigned sources: Surgeon General, FDA, CDC, or no source as a control. The no source message began, "Smoking cigarettes was recently linked to more diseases, such as...". Believability of these messages was assessed with the question, "how believable is this message?" with response options of very (coded as 3), somewhat (coded as 2), or not at all (coded as 1).

Current cigarette use was measured with two items, asking participants "have you smoked at least 100 cigarettes in your entire life?" and "do you now smoke cigarettes every day, some days, or not at all?". Participants who reported smoking at least 100 lifetime cigarettes and reported current smoking every day or some days were classified as smokers. Otherwise, participants were classified as non-smokers. Quit intentions were measured with the item "are you planning to quit smoking..." with response options for "within the next month", "within the next 6 months", "sometime in the future beyond 6 months", or "are you not planning to quit". This item was only asked of smokers. Participants who responded they were planning to quit within the next month

Download English Version:

<https://daneshyari.com/en/article/5635694>

Download Persian Version:

<https://daneshyari.com/article/5635694>

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