

The Impact of Cultural Characteristics and Message Appeals on Attitudes toward Anti-Secondhand Smoke PSAs

: Cross-Cultural Comparison*

Abstract

This online evaluation study of anti-secondhand smoke messages investigated two related questions. First, to what extent do different message appeals — norm versus threat — have differential impacts on people from a predominantly individualistic culture compared to people from a predominantly collectivistic culture? Second, how do country-level and individual-level cultural orientations interact to affect attitudinal outcomes? Using a 2 (Culture: Individualism vs. Collectivism) × 3 (Message Appeals: Descriptive Norm vs. Injunctive Norm vs. Threat) between-subjects design, the study was conducted online among nonsmoking college students in the U.S. and South Korea. Message appeals were tested in ads that oppose secondhand smoke, a prominent health issue in both countries. There are two major findings. First, regardless of culture, norm appeals — particularly injunctive but not descriptive norm appeals — are more effective than threat appeals on behavioral intention. Second, people in an individualistic culture responded more favorably to threat appeals than those in a collectivistic culture, while no clear evidence was found on preference for norm appeals among people in a collectivistic culture. Regression analysis produced no evidence that individual-level cultural orientations of individualism or collectivism would affect the interactive relationship between country-level culture and message appeals for attitude toward ad or behavioral intention.

Keywords: Antismoking, Culture, Norm appeal, Secondhand smoke, PSA, Threat appeal



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Introduction

Cultural characteristics have been widely acknowledged to play significant roles in both the design and reception of persuasive messages (권혁렬, 2013; Mollen, Rimal, & Lapinski, 2010). Audiences are more likely to accept and respond to messages that reflect their own cultural characteristics (e.g., Albers-Miller & Gelb, 1996; de Mooij, 1998). However, few studies have directly compared the effectiveness of different message appeals with respect to cultural characteristics. The current study aims to answer two questions. First, to what extent do people in two markedly different cultures respond to different message appeals? Second, how do country-level and individual-level cultural orientations interact to affect attitudinal outcomes?

The two types of message appeal tested in this study are norm and threat appeals. Norm appeals typically use either descriptive norms, which inform people about the prevalence of a behavior, or injunctive norms, which refer to how much people approve or disapprove of a behavior (Cialdini, Reno, & Kallgren, 1990). Threat appeals try to warn people about a behavior's risks and dangerous consequences (Hale & Dillard, 1995). Norm and threat appeals are of particular interest for three reasons. First, since these appeals may often compete with each other, researchers should try to determine which message strategy is more likely to work from one culture to another. For example, in a social norm campaign a threat appeal may generate misperceptions about the

prevalence of a problematic behavior, and as a result it may weaken the campaign's impact (Perkins, Linkenbach, Lewis, & Neighbors, 2010). Second, since an individual's own health problem is often threatened by other people's behavior, this study aimed to compare two appeals: one highlighting the health threat posed by others' smoking behavior and the other highlighting nonsmokers' anti-smoking behavior against smokers. Third, since these two appeals differ, they can be subject to cultural influences such as individualism or collectivism (Lapinski, Rimal, DeVries, & Lee, 2007; LaRoche, Toffoli, Zhang, & Pons, 2001; Paek et al., 2009).

To test the role of cultural characteristics in persuasion, this study focuses on the U.S. and South Korea because the two cultures have several markedly different characteristics. The study topic at center stage is secondhand smoke. Smoking continues to be the leading preventable cause of death and disease worldwide (Centers for Disease Control and Prevention [CDC], 2010). In South Korea in 2013, the smoking rate among adult males was 45.8%, the highest among OECD countries (OECD, 2013). In recent decades in the U.S., the smoking rate among adults has decreased to 20.5%, but new products and smoking trends continue to threaten public health (CDC, 2014). In particular, the potential for secondhand smoke to harm nonsmokers has gained greater recognition as a serious health problem.

Through an online message evaluation study adapted to U.S. and Korean contexts, the current study tested the differential impacts of norm and

threat appeals according to country-level and individual-level cultural characteristics. Although these appeals are frequently employed in health campaign messages in various cultures (Baek & Yu, 2009; Beaudoin, 2002; Paek, Yu, & Bae, 2009), their respective effectiveness has never been directly compared within the same study. The findings of this study provide a more nuanced understanding of the role culture plays in persuasion. Identifying effective and culturally specific message appeals could also help health communicators in their ongoing efforts to develop successful anti-secondhand smoke campaigns. Furthermore, these findings can help inform a possible concerted international strategy to fight the tobacco epidemic involving customized campaign messages that have already proven to be successful within specific cultures.

Secondhand smoke issue in the U.S. and South Korea

In the U.S., secondhand smoke is the third leading cause of preventable death, after active smoking and alcohol use (American Society of Clinical Oncology, 2003). According to a survey of U.S. college students, 83% reported exposure to secondhand smoke. Of those, 65% were exposed to smoke in a restaurant or bar, 55% at home or in the same room as a smoker, and 38% in a car (Wolfson, McCoy, & Sutfin, 2009). Moreover, nearly all nonsmokers (93.9%) reported that secondhand smoke was annoying (Wolfson et al., 2009). In South Korea, 68% of nonsmokers re-

ported being exposed to smoke in locations such as home, work, and other places (Hughes et al., 2008).

Media campaigns against secondhand smoke have been developed in both countries. The purpose of anti-secondhand smoke campaigns is to increase awareness of its harmful health effects and to empower nonsmokers to speak out and request smokers to stop smoking in their presence. As an example of a South Korean effort to reduce secondhand smoke, in 2008 the government implemented a "Say No" campaign that encourages the general public to express their disapproval of cigarette smoking directly to smokers and in the immediate presence of nonsmokers. Studies reported that the campaign did indeed contribute to portraying smoking as an unacceptable behavior (Cho, 2008). Such changes in antismoking sentiment could motivate smokers to quit smoking (Kim & Shanahan, 2003). Another effective strategy involves ads that focus on secondhand smoke by informing smokers that their habit can have harmful physical effects on friends, family members, and others. According to a study of eight antismoking strategies used in the U.S., ads that emphasized this theme not only gave youths health information but also aroused their sense of injustice (Goldman & Glantz, 1998).

Given the shared goals and challenges of reducing the smoking rate worldwide, global tobacco control efforts would significantly benefit from knowing which anti-secondhand smoke campaign message strategies are likely to work. However, the strategies that prove effective may vary ac-

ording to the cultural characteristics of different national audiences. To begin addressing this complication, the next section discusses a related pair of topics: first, two types of message appeals that could be appropriate for anti-secondhand smoke campaigns, norm and threat appeals; second, the cultural characteristics that could vary these appeals' effectiveness.

Types of message appeal: Norm and threat

While public health campaign messages predominantly use threat appeals, health communication scholars have paid increasing attention to a different type of appeal that highlights perceived social norms. In a review of the major health behavior theories, Fishbein et al. (2004) claimed that perceived norms are among the important factors that contribute to behavior change, along with individuals' attitudes toward the behavior and self-efficacy. Since secondhand smoke involves threats to a person's own health that are caused by other people's behavior, it would be useful to learn how threat appeals compare to other types of appeals in terms of campaign effectiveness. In this study, we chose to compare them to norm appeals. While threat appeals highlight the health threat posed by others' smoking behavior, norm appeals highlight nonsmokers' anti-smoking behavior against smokers.

In general, norm appeals focus on the extent to which people view certain behaviors as typical, normal, or desirable. Social norms fall into two general types, injunctive and descriptive (Cialdini

et al., 1990). Injunctive norms refer to our perceptions about whether other people approve or disapprove of a behavior. Descriptive norms refer to our perceptions about the prevalence of a behavior and whether people seem to regard it as typical or normal.

These two types of norms can elicit behavior change (Cialdini et al., 1990; Kallgren, Reno, & Cialdini, 2000; Rimal & Real, 2005). Cialdini (2007) argues that injunctive norms lead to behavior change by way of social evaluation of what we should and should not do, while descriptive norms do so by way of social information about "what is likely to be adaptive and effective conduct in the setting" (p. 264). According to these definitions, injunctive norms represent a strict sense of social pressure and a more traditional sense of normative influence, while descriptive norms more closely resemble the informational influence that has been so thoroughly studied in social psychology (Moscovici, 1985).

Due to the different processes through which these two types of norms work, the direction and strength of their influence may differ (Cialdini et al., 1990; Schultz et al., 2007). For example, peer descriptive norms were more strongly related to eating behaviour in adolescents than peer injunctive norms (Lally, Bartle, & Wardle, 2011). By contrast, in a field study (Schultz et al., 2007), descriptive norms generated boomerang effects among people who had already engaged in a desirable behavior. This effect disappeared, however, when injunctive messages were combined with descriptive messages. Furthermore, Lapinski

et al (2015) reported that value-relevant involvement moderated the relationship between behavioral intention regarding fast food consumption and descriptive norms. That is, people with high value-relevant involvement were less influenced by descriptive norms, suggesting that descriptive norms may work as a heuristic decision cue. Based on the assumption that highly involved people are likely to process information thoroughly, the authors predicted (although they did not test) that value-relevant involvement would reinforce the effects of injunctive norms. But since this study had inconsistent results and examined different mechanisms for how different perceived norms work, further investigation in various health contexts is needed to explore and compare the relative effectiveness of descriptive versus injunctive norms.

Because people's perceptions about descriptive and injunctive norms influence their behaviors (Elek, Miller-Day, & Hecht, 2006; Paek, 2009; Rimal & Real, 2005), efforts have been made to communicate correct normative behavior in various health contexts such as illegal drug use, smoking, and drinking (e.g., Paek, 2009; Rimal, 2008; Rimal & Real, 2005). In such interventions, the prevalence of a certain behavior or the level of social approval has been conveyed in various ways, for example: in fractions (e.g., "9 out of 10 MSU students disapprove of drinking to the point of passing out and/or pressuring someone to drink more than they want" (used at Michigan State University); in percentages ("64% reported that they have not engaged in heavy drinking recently")

(Werch et al., 2000); or in indefinite quantifiers (e.g., "Most students drink 5 or fewer drinks when they party" [used at Northern Illinois University]). Another effective strategy involves ads that focus on secondhand smoke by informing smokers that their habit can have harmful physical effects on friends, family members, and others. According to a study of eight antismoking strategies used in the U.S., ads that emphasized this theme not only gave youths health information but also aroused their sense of injustice (Goldman & Glantz, 1998).

For the current study's context, norm appeals may be effective in encouraging nonsmokers to take actions against smoking. Descriptive norms provide information about what appears to be an appropriate behaviour in a given situation, especially in uncertain situations. Injunctive norms help people perform a behavior by indicating that the behavior is socially approved (White & Simpson, 2013). For instance, nonsmokers may need information on what most people do or think they should do when exposed to smoking. The Korean government's "Say No" campaign encouraged nonsmokers to express their disapproval of smoking to smokers. However, it is not known whether the campaign achieved its intended effects. Since it did not refer to any descriptive and/or injunctive norms, it may have failed to encourage nonsmokers to speak out.

Another frequently used type of appeal in health communication is the threat appeal, which refers to "persuasive messages that emphasize the harmful physical or social consequences of failing to comply with message recommendations" (Hale

& Dillard, 1995, p. 65). The threat appeal has been extensively researched, particularly in the contexts of health messages and public service announcements (PSAs; e.g., Dickinson & Holmes, 2008). Several theoretical models explain how threat appeals, or the audience fear elicited by them, lead to attitude change. For example, according to the drive reduction model, the parallel response model, and the extended parallel process model (Eagly & Chaiken, 1993; Hale & Dillard, 1995; Witte, 1992), threat appeals may enhance people's response to an ad by arousing a level of fear sufficiently intense to motivate their drive state. According to another view, the threat appeal works by making people think about the threatening message and then develop strategies (e.g., attitude or behavior changes) to control the danger or the threat (Paek, Kim, & Hove, 2010).

Despite abundant research on the threat appeal, its effectiveness continues to be debated (for more details, see Hale & Dillard, 1995). Some research, however, has found that older people tend to respond more favorably to threat appeals because they feel more susceptible to risks and dangers (e.g., Hale & Dillard, 1995). For similar reasons, different uses of threat appeals according to age have also been reported in smoking contexts. For example, antismoking ads that target adults tend to use threat appeals, while ads that target youths tend to emphasize social appeals (or social norm appeals) (Beaudoin, 2002). In addition, a study of a school-based antismoking intervention program in the U.K. reports that, while the intervention did not change adolescents' beliefs about

smoking's harmful effects, it did change their beliefs about smokers' popularity (Michaelidou, Dibb, & Ali, 2008). The same study showed that youth-focused antismoking programs may be more effective with social appeals and references to short-term negative consequences, instead of threat appeals that refer to long-term health effects. A meta-analysis of 12 studies published in South Korea showed that threat appeal messages were generally effective in changing perceptions, attitudes, intentions, and behaviors related to various health issues (Lee, Sohn, Seo, Jwa, & Hong, 2013).

As indicated by the studies in various health contexts reviewed above, both norm and threat appeals have an impact on health-related beliefs, attitudes, and behavior/behavioral intention. The prevalence of norm and threat appeals may be attributed to their potential to change behaviors. Nevertheless, few studies have directly tested and compared the relative strength of that impact on persuasion. Accordingly, we raise the following research question.

RQ1: Which message appeal – descriptive norm, injunctive norm, threat – will be more effective in terms of attitudes toward the ad and behavioral intention?

Differential impact of message appeals by cultural characteristics

In the context of the current study, the effectiveness of norm and threat appeal messages are also

expected to differ according to cultural characteristics, particularly cultural value orientations. People who belong to different cultures are known to have different construals of the self and its relations with others (Markus & Kitayama, 1991). These different construals may in turn lead people to have differential responses to persuasive messages (홍문기, 2013; Aaker & Williams, 1998), for example when certain cultural orientations are more readily accessible in one type of culture rather than another (Singelis, 1994).

Individualism-Collectivism is a cultural value orientation that relates to how people view, comprehend, and perceive the world around them (Aaker & Williams, 1998; Hofstede, 2001). Simply put, individualism refers to a cultural orientation with an "I"-focus; collectivism, a "we"-focus. People from individualistic cultures such as the U.S. value individual goals and personal distinctiveness, and they tend to have independent self-construals. Conversely, people in collectivistic cultures such as South Korea value group goals and social harmony, and their self-construals tend to be interdependent (Hofstede 2001; for similar arguments, see Aaker & Williams, 1998; Chang, 2009).

People from different cultures have been found to have varying responses to different types of advertising messages and persuasive appeals. Specifically, people in an individualistic culture may respond more favorably to a threat appeal because they privilege their own individual needs and tend to take note of messages that indicate a threat to their own well-being or health. As empirical evi-

dence for this assumption, one study in which participants were exposed to physical threat ads found that Canadian participants (individualistic culture) showed more negative attitudes towards smoking and more positive intentions to quit than did their Chinese counterparts (collectivistic culture) (LaRoche et al., 2001). Another study with high school students from eight individualistic and collectivistic cultures showed that a threat message ("Smoke and Get Sick") generated a more positive attitude toward the ad among individualist people than collectivist people (Miller, Foubert, Reardon, & Vida, 2006).

This tendency might explain why threat appeal ads are most prevalent in individualistic cultures, and why most of the research on the threat appeal has been carried out in such cultures (Murray-Johnson, Witte, Liu, & Hubbell, 2001). For example, a content-analytic study of weight-loss websites found that U.S. websites use threat appeals more frequently than South Korean websites (Baek & Yu, 2009).

On the other hand, we can expect that people in individualistic cultures may respond less favorably to norm appeal messages than those in collectivistic cultures. Indeed, research suggests that in individualistic cultures attitudes are stronger determinants of behavior than norms (Suh, Diener, Oishi, & Triandis 1998). Moreover, among people with a strong individualistic orientation, descriptive norm messages showing that most other people are engaging in a given behavior result in more negative attitudes and weaker behavioral intentions (Lapinski et al., 2007). As the authors

of that study explained, individualistic people may prefer choosing attitudes and behavioral intentions that are unique to a small number of people rather than those that are popular among the majority. Also, individualistic cultures seem to teach people that the social pressure to comply with society's norms somehow interferes with personal freedom (Park & Levine, 1999). By contrast, collectivistic people tend to be more strongly influenced by group norms.

This differential impact of norms according to individualistic-collectivistic cultural orientations may explain why South Korean antismoking websites employed social norm appeals (particularly focusing on significant others) as health promotion strategies more frequently than their U.S. counterparts (Paek et al., 2009). Empirical studies also demonstrate this cultural difference. In studies comparing Koreans and Americans (e.g., Park, Choi, & Joo, 2014; Shteynberg, Gelfand, & Kim, 2009), descriptive norm influence had a greater impact on Koreans' attitudes and behaviors than those of Americans. A similar pattern was also observed when injunctive norms were manipulated (Savani, Wadhwa, Uchida, Ding, & Naidu, 2015). As these studies demonstrate, norms may govern behavior to some extent in both cultures, but people can be more influenced by social norms in collectivistic cultures than in individualistic cultures.

Through a series of experimental and field studies, White and Simpson (2013) reported that when the collective self is activated, injunctive and descriptive normative messages are effective.

By comparison, when the individual self was activated, messages focusing on individual benefit were effective. The authors also found that a descriptive appeal can be effective for self-activated people when it has informational benefits, for example in ambiguous situations.

Based on the foregoing theoretical and empirical accounts, we propose the following interaction effect hypothesis:

Hypothesis: Between culture and message appeal, there will be significant interaction effects such that:

Ha: People from a collectivistic culture (South Korea) will have more favorable attitudes toward the ad (Ha-a) and behavioral intention (Ha-b) in both the descriptive and the injunctive norm message conditions than will people from an individualistic culture (U.S.).

Hb: People from an individualistic culture (U.S.) will have more favorable attitudes toward the ad (Hb-a) and behavioral intention (Hb-b) in the threat message condition than will people from a collectivistic culture (South Korea).

Although the U.S. has mainly been studied as individualistic and South Korea as collectivistic (e.g., Paek et al., 2009; Park & Levine, 1999), it is also possible that people within each country have different levels of individualism and collectivism. Acknowledging that independent and interdependent self-construals may coexist with-

in one culture, Chang (2009) tested congruency effects between the two opposing self-construals and the matching message appeals. The study found that Taiwanese students with individualistic, independent self-construals were more responsive to antismoking messages posing threats to the self (self-referencing message), while those with collectivistic, interdependent cultural orientations were more responsive to messages that emphasized harms to others (other-referencing message) (Chang, 2009).

However, Aaker and Williams's experimental study (1998) reported the unexpected finding that U.S. participants responded more favorably to "other-oriented" emotional appeal messages (i.e. empathy), while Chinese participants responded more favorably to "self-oriented" emotional appeal messages (i.e. pride). A subsequent experiment in this same study found that the unexpected findings may have resulted from the participants generating novel types of thoughts (i.e. individualistic thoughts generated by people in a collectivistic culture and vice versa). The explanation was that, "while the interdependent self tends to be most dominant in collectivist cultures, members of such cultures can and do sample aspects of the independent self under certain conditions" (Aaker & Williams, 1998, p. 259). According to this reasoning, it is possible that country-level and individual-level cultural characteristics might influence one another.

In sum, Chang (2009) focused only on individual-level cultural orientations in Taiwan, and Aaker and Williams (1998) focused only on

country-level cultural orientation by using U.S. and Chinese students to represent individualism and collectivism. But to develop a more synthetic approach, the current study examines the interplay between country-level and individual-level cultural characteristics with the following research question.

RQ2: Will the individual-level cultural orientations moderate the interactive relationship between country-level cultural characteristics and message appeals?

Methods

Data/Research Design

An online message evaluation study was conducted in the U.S. and South Korea with a 2 (Culture: Individualism vs. Collectivism) x 3 (Message Appeals: Descriptive Norm vs. Injunctive Norm vs. Threat) factorial design. In keeping with a study design similar to that of Aaker and Williams (1998), the US participants represent members of an individualistic culture and the South Koreans represent members of a collectivistic culture. Cultural characteristics were measured by assessing respondents' orientation toward individualistic or collectivistic values. The three message appeal conditions were a between-subjects factor.

Sample and Procedure

Because this study's topic is second-hand smoke, nonsmoking students from several large undergraduate courses at a major university in the U.S. and several universities in South Korea participated in the online experiment. It consisted of a questionnaire containing the three treatment message conditions, which was approved by the university's Institutional Review Board. Participants were randomly assigned to one of the three message conditions – injunctive norm, descriptive norm, and threat appeals. Random allocation of these conditions was achieved through a random URL-link generator. Before viewing the messages, participants were asked about background information (e.g., gender, smoking experience) and individualism/collectivism orientation. Next, they viewed one of the three messages and were then asked to answer the following screening question: “Which one of the following statements best describes the ad you just saw? (1) The ad shows what your significant others (friends, family members, siblings, etc.) think or feel about what you should do when you are exposed to smoke. (2) The ad shows whether most people at your university approve or disapprove of what you do when you are exposed to smoke. (3) The ad shows what a majority of students at your university typically do when they are exposed to smoke. (4) The ad clearly explains that no amount of exposure to smoke is safe. (5) None of the above.” Next, they were asked to answer a series of message-related questions regarding attitudes toward the ad

and behavioral intention. Only those who provided a correct answer for the message condition were included in the final analysis. This type of screening procedure was employed because there seems to be no proper manipulation check to determine whether the participants understood our manipulated messages. According to O’Keefe, “when the research question concerns the effect of a message variation on a persuasive outcome, no message manipulation check is required. The investigator will naturally want to be careful in creating the experimental messages, but the adequacy of the manipulation of the message property is not appropriately assessed by inquiring about participant perceptions of the message” (2003, p.257; also see Sigall & Mills for similar argument). Similar reasoning regarding the manipulation check can be found in a study by Paek, Yoon, & Hove (2011). We therefore used this approach instead of using perceived norm or threat/fear.

After this screening procedure, the final sample size was 308 (U.S. = 178, South Korea = 130; for the sample size for each condition, see Table 1). About 67% were females. Academic year was evenly distributed: first year = 21.7%, second year = 25.3%, third year = 23.8%, fourth year = 23.1%, and fifth year and above = 6.2%.

Stimuli

Six antismoking ads, each with a different type of message appeal (injunctive norm, descriptive norm, threat appeal), were produced by a pro-

fessional designer. Three sets of advertising copy for each message were created: (1) descriptive norm appeal – “Most people at your university ask smokers to stop smoking in their presence”; (2) injunctive norm appeal – “Most students at your university agree. You should ask smokers to stop smoking around you”; and (3) threat appeal – “No amount of secondhand smoke is safe!” The norm messages were based on conceptual and operational definitions for each of the norms (Paek, 2009) and informed by various examples of social norm campaign messages in health contexts (e.g. “Most students drink 5 or fewer drinks when they party”; for more detailed reviews, see Berkowitz, 2004; also, Werch et al., 2000). The threat appeal message, based on the conceptual definition of the threat appeal, was developed to arouse fear by emphasizing that even low levels of secondhand smoke would be harmful. Thus, these messages secure content validity.

Across the three conditions, all the advertisements had identical layouts and spacing, the same body content describing the negative consequences of exposure to secondhand smoke, and the same call-to-action message. The consequences and call-to-action messages were as follows: “Secondhand smoke can increase your risks of cancer, heart disease, and chronic respiratory conditions. Tell smokers to smoke somewhere else or to stop smoking in your presence. For more information about secondhand smoke, call [phone number].”

The ad messages and survey questionnaire were developed in English first and then, to achieve equivalence, translated into South Korean

following the translation-back translation procedure (Smith, 2004; also see van de Vijver & Leung, 1997).

Measures

The culture factor was assumed, but individualism and collectivism orientations were measured to check that assumption. The scales were also used as covariates (for RQ2). In addition, attitudes toward the ad and behavioral intention served as dependent variables.

Individualism/collectivism. A 13-item scale on individualism-collectivism was used with a slight modification from the 14-item scale by Sivadas, Bruvold, and Nelson (2008). The scale was validated using confirmatory factor analysis, and it is more parsimonious than the 32-item scale of Singelis, Triandis, Bhawuk, & Gelfund (1995). One item (“Children should feel honored if their parents receive a distinguished award”) was dropped because it had a low factor score among the items in the Sivadas et al. (2008) study. Thus, the individualism scale was constructed by averaging the following six, 7-point Likert scale items: (1) I enjoy working in situations that involve competition with others; (2) I enjoy being unique and different from others in many ways; (3) I often “do my own thing”; (4) Competition is the law of nature; (5) I am a unique individual; (6) Without competition it is not possible to have a good society ($\alpha = .76$ for U.S. and $.70$ for South Korea). The collectivism scale was constructed by averag-

ing the following seven items: (1) My happiness depends very much on the happiness of those around me; (2) I would do whatever would please my family, even if I detested that activity; (3) I usually sacrifice my self-interest for the benefit of the group I belong to; (4) The well-being of my colleagues or friends is important to me; (5) If my colleague or friend gets a prize, I would feel proud; (6) If my family did not approve of an activity I enjoy very much, I would give it up; (7) I feel good when I cooperate with others ($\alpha = .59$ for U.S. and $.72$ for South Korea). Although the reliability coefficient for the collectivism orientation scale seems low, cross-cultural research scholars have noted that this low reliability is a well-known problem (e.g., Singelis et al., 1995; Triandis & Gelfand, 1998). Indeed, a number of cross-cultural studies have reported reliabilities either equal to or lower than ours (e.g., McCarty & Shrum, 2001; Oppenheimer, 2004).

Attitudes toward the ad (*Aad*). This variable was constructed by averaging the following four items drawn from previous studies' measures of *Aad* (MacKenzie, Lutz, & Belch, 1986: seven-point semantic differential scale ranging from -3 to 3): bad/good, uninteresting/interesting, unrealistic/realistic, and unfavorable/favorable ($\alpha = .73$ for U.S. and $.85$ for South Korea).

Behavioral intention (*Bi*). This variable was constructed by averaging the following three question items: After viewing this ad, how likely are you ...? (1 = not at all likely and 7 = very likely):

(1) to seek more information about secondhand smoke, (2) to call the number shown in the ad, (3) to ask a smoking person not to smoke in your presence or to smoke somewhere else ($\alpha = .72$ for U.S. and $.83$ for South Korea).

Analytic Strategy

First, to test Research Question 1 and Hypothesis 1, we performed two sets of Univariate Analysis of Variance (ANOVA) via the General Linear Model (GLM): one for *Aad* and the other for *Bi*. Full factorial model was employed so that culture and message conditions were entered as main factors as well as the interaction term between the two factors. To test Research Question 2 about three-way interaction among country-level cultural characteristics, message appeals, and individual-level cultural orientation, we performed a multiple regression analysis. Multiple regression seems more appropriate than ANOVA for moderation tests because our moderator of interest (i.e., individual-level cultural orientation) is a continuous variable, not a categorical variable. This approach can minimize loss of statistical power and optimize a small sample size (Aiken, West, & Reno, 1991). In addition, using a variable that was originally measured at an individual level at an aggregate level (i.e., country in this study) is not uncommon in research employing a multi-level approach (e.g., Paek, Lee, Salmon, & Witte, 2008; Shulman & Levin, 2012)

Since message condition is a categorical variable (three types of message appeals), it was dum-

my coded to include in the regression injunctive norm (= 1; the other two appeals = 0) and threat appeal (= 1; the other two appeals = 0). The descriptive norm condition served as the reference group. In addition, the three-way interaction terms including the individualism and collectivism cultural orientations were produced by centering these continuous variables around their mean and multiplying the centered variables with injunctive norm appeal and threat appeal dummy variables and country (Aiken et al., 1991; Cohen & Cohen, 1983). In the regression model, independent variables, message condition, country, and individualism and collectivism cultural orientations were entered first, then the two-way (injunctive appeal x country, threat appeal x country) and three way interactions were entered. The rationale for this particular order is that the interaction variables are represented by the products of the main effects and become interaction terms only when the main effects' components are partialled out (Aiken et al., 1991; Cohen & Cohen, 1983).

Results

Assumption Check

Individualism and collectivism scales were used to test the assumption of the culture factor – that South Korean participants had a higher level of collectivism orientation than U.S. participants, and vice versa for individualism. Independent

samples t-test had the following results: US students had a higher level of individualism orientation ($M = 5.09$, $SD = .86$) than South Korean students ($M = 4.72$, $SD = .94$; Mean diff = .37, $t(306) = 3.53$, $p < .001$); South Korean students had a higher level of collectivism orientation ($M = 4.89$, $SD = .81$) than US students ($M = 4.63$, $SD = .73$; Mean diff = .27, $t(205.98) = 2.91$, $p < .01$). Thus, we can safely conclude that the culture factor was appropriately assumed.

Research Question/Hypothesis Testing

Research Question 1 asked about the main effect of message appeals – i.e., which message appeal – (descriptive versus injunctive) norm versus threat (RQ1) – would be more effective in terms of attitudes toward the ad (Aad) and behavioral intention (Bi). As shown in Table 1, ANOVA tests indicate that there was no significant main effect of the message appeals on Aad . However, a marginally significant main effect of the message appeal factor on Bi was found, $F(1, 302) = 2.90$, $p = .057$. A post hoc test using Tukey HSD reveals that the participants in the injunctive norm condition reported a higher level of Bi than those in the threat appeal condition (mean diff = .59, $p < .01$) and than those in the descriptive norm condition (mean diff = .47, $p = .05$). However, there was no significant mean difference of Bi between the descriptive norm and threat appeal conditions.

Our hypothesis predicted interaction effects

Table 1 Summary of ANOVAs for the two dependent variables

	Factor	$M^{1)}$	$SD^{2)}$	F	df	p
Dependent variable 1: Attitude toward Ad	Country			8,298	1, 302	.004
	USA	0.63	1.08			
	Descriptive Norm	0.29	1.19			
	Injunctive Norm	0.55	0.98			
	Threat Appeal	0.88	0.98			
	South Korea	0.15	1.37			
	Descriptive Norm	0.13	1.50			
	Injunctive Norm	0.36	1.43			
	Threat Appeal	-0.13	1.21			
	Message condition	0.46	1.21	.711	2, 302	.492
	Descriptive Norm	0.26	1.25			
	Injunctive Norm	0.45	1.25			
	Threat Appeal	0.58	1.15			
	Country X Message condition			3,958	2, 302	.020
Dependent variable 2: Behavioral Intention	Country			11,581	1, 302	.001
	USA	2.96	1.24			
	Descriptive Norm	2.99	1.24			
	Injunctive Norm	3.20	1.32			
	Threat Appeal	2.84	1.21			
	South Korea	3.64	1.45			
	Descriptive Norm	3.64	1.70			
	Injunctive Norm	3.87	1.40			
	Threat Appeal	3.34	1.41			
	Message condition	3.20	1.36	2,896	2, 302	.057
	Descriptive Norm	3.11	1.35			
	Injunctive Norm	3.58	1.40			
	Threat Appeal	2.99	1.29			
	Country X Message condition			.119	2,302	.888

* Sample size per condition – For USA, DN= 62, IN = 41, Threat = 75; For South Korea, DN= 34, IN= 55, Threat = 41. Attitude toward ad was measured using a semantic differential scale (-3 to 3) and behavioral intention was measured using a Likert scale (1 to 7).

¹⁾ M : Mean

²⁾ SD : Standard deviation

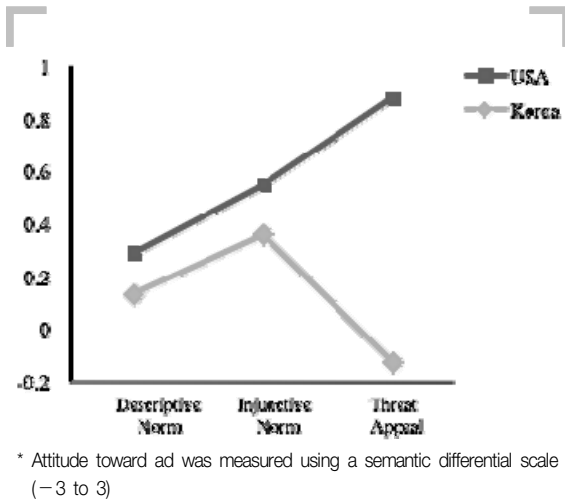


Figure 1 Attitude toward Ad

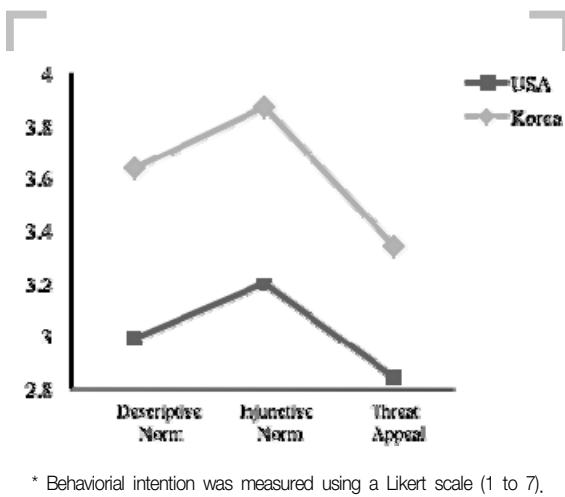


Figure 2 Behavioral Intention

between culture and message appeals in terms of *Aad* and *Bi*. Two ANOVA tests resulted in mixed findings. On the one hand, there was a sig-

nificant interaction effect on *Aad*, $F(2, 302) = 3.96, p < .05$. As shown in Figure 1, it appears that the U.S. participants reported a higher level of *Aad* in the threat appeal condition than did the South Korean participants, supporting Hb-a. But a significant main effect of culture on *Aad* confirms that, overall, U.S. participants report a higher level of *Aad* than their South Korean counterparts, $F(1, 302) = 8.30, p < .01$, regardless of the message appeal condition. Therefore, Ha-a – predicting that the South Korean participants would respond more favorably to norm messages than would the U.S. counterparts – was not supported.

By contrast, no significant interaction effect on *Bi* was found between culture and message appeal, $F(2, 302) = .12, p = ns$, which means that neither Ha-b nor Hb-b was supported. As shown in Figure 2, though, a significant main effect of culture on *Bi* indicates that the South Korean participants reported a higher level of *Bi* than the U.S. participants, regardless of the types of message appeals.

RQ2 asked whether the individual-level individualism and collectivism orientation would moderate the relationships examined above – between country-level culture and message appeals. As shown in Table 2, two sets of multiple regression analyses indicated no significant three-way interactions. This means that the individual-level cultural orientations of individualism or collectivism did not moderate the relationship between country-level culture and message appeals to affect *Aad* or *Bi*.

Table 2 Multiple Regression Analysis

Predictors		Attitude toward Ad		Behavioral Intention	
		beta ¹⁾		beta ¹⁾	
Block 1	Country	-.059		.210	
	Injunctive norm (IN) appeal (dummy) ²⁾	.211		.065	
	Threat appeal (dummy) ²⁾	.636**		-.023	
	Individualism	.163		.070	
	Collectivism	-.070		.053	
	R^2 (%)		8.7***		9.4***
Block 2 ³⁾	Country × IN appeal	.302		.016	
	Country × Threat appeal	-.421*		-.008	
	Country × IN appeal × Individualism	-.066		.057	
	Country × Threat appeal × Individualism	-.006		-.054	
	Country × IN appeal × Collectivism	.063		.015	
	Country × Threat appeal × Collectivism	.046		.017	
	ΔR^2 (%)		3.8*		0.4
Total R^2 (%)			12.4***		9.8***

Notes:

¹⁾ Beta coefficients are standardized. Interaction terms (all the variables in block 2) were beta in coefficients.

²⁾ The descriptive norm condition served as the reference group

³⁾ Because multicollinearity was detected based on tolerance (less than .10) and VIF (above 10) diagnostics, beta in coefficients – i.e., the coefficients after controlling for all the variables in the first and second block and without controlling for the major predictors – were used to determine each interaction term's statistical significance.

* $p < .05$; ** $p < .01$; *** $p < .001$

Discussion

The main purpose of this study was to test how the effectiveness of message appeals differs according to both country-level and individual-level cultural characteristics. The norm and threat appeals it tested are frequently used in health campaign messages. U.S. and South Korean participants were chosen because they represent two

distinct cultural characteristics – individualistic and collectivistic orientations.

Explanations of Findings

Our findings indicate that, when culture is not considered, injunctive norm messages may be more effective than descriptive norm messages. The basis for this finding can be explained by sev-

eral mechanisms. First, it may be that injunctive norms invoke people's sense of obligation, and therefore strongly motivate them to comply with social norms (Cialdini et al., 1990). Second, compared to descriptive norm appeals, which may simply serve as heuristic informational cues, injunctive norm appeals might achieve their impact through cognitive assessments of the quality or persuasiveness of the normative information, which makes the impact strong and enduring (Cialdini, 2003). While descriptive norms may exert a more powerful influence in other contexts, the empirical evidence found in this study suggests that injunctive norm messages have greater potential to influence people to take actions. Third, descriptive norms have been suggested as strong determinants of behaviour in unfamiliar or ambiguous situations because they provide information about what is commonly done in a particular situation (White & Simpson, 2013). Since smoking is a prevalent and familiar topic among many Koreans, descriptive norms might have less influence on Koreans' behaviors or behavioral intentions. Supporting this reasoning, a study with Korean adult smokers found that perceived descriptive norms did not have an impact on smokers' behavioral intention to quit smoking while perceived injunctive norms did (Lee & Paek, 2013).

However, the analysis of the differential effectiveness of the two appeals by culture suggests that norm appeals may be more effective in the U.S. Our finding that the U.S. participants reported more favorable attitudes toward ads with

threat appeals than with norm appeals is also consistent with previous empirical findings and theoretical arguments. That is, people in an individualistic culture tend to privilege their own personal needs. Accordingly, they respond more strongly to messages that indicate a threat to their well-being or health (LaRoche et al., 2001).

By contrast, the lack of evidence for the South Korean participants' preference for norm appeals, compared to the U.S. participants, may be explained in several ways. First, the referent that the message focuses on may vary the normative influence. For example, literature has suggested that messages addressing "important others" (i.e. subjective norm) are generally more effective than those addressing "general others" (Paek, 2009). While cross-cultural research has found evidence for the superior influence of subjective norms on one's own behavior in collectivistic cultures compared to individualistic cultures (Park & Levine, 1999), little evidence has been documented for other types of norms. A content-analytic study also found that South Korean antismoking websites employed subjective norm messages more frequently than their U.S. counterparts, but not in the case of other types of norms (Paek et al., 2009). These findings may indicate that, in collectivistic cultures, subjective norms play a more salient role in predicting one's own attitudes and behavior than general social norms do. Nevertheless, researchers have called for more studies to explore the differential impact of messages that focus on diverse referents (Aaker & Williams, 1998; Chang, 2009).

Our results also show that the impact of cultural characteristics on audience response to message appeals might have to compete with individuals' motivations, thoughts, or abilities. As Aaker and Williams (1998) have argued, these psychological conditions may weaken culture's impact. If we extend this logic, some psychological mechanisms may have operated on participants within the same culture and differently affected the magnitude of normative influence on their response to the messages. However, our multiple regression analysis indicated no evidence for the role of individual-level cultural orientations in predicting the dependent variables. Further analysis within each country provides some empirical support for this argument. A series of interaction tests of low versus high individualism/collectivism orientations and three types of message appeals indicated that the US participants who had high levels of individualism were significantly more favorable toward the threat appeal message than those with low levels of individualism ($F(2,168) = 3.29, p < .05$). This result implies a potential role of individual-level cultural orientation in people's responses to message appeals. But because no other significant results were found, future research should explore other individual cultural or psychological orientations besides individualism/collectivism to see whether they may be activated to affect the cultural influence on audience response to message appeals.

Lastly, another interesting finding was that U.S. participants reported a higher level of atti-

tude toward the ad than their South Korean counterparts, while the latter reported a higher level of behavioral intention, regardless of the types of message appeals. This result makes sense for two reasons: first, theoretical and empirical evidence on normative influence is more related to attitudes and behavior regarding the topic of inquiry rather than to messages; second, norm influence had greater impact on the attitudes and behaviors of Koreans than those of Americans (e.g., Park et al., 2014; Shteynberg et al., 2009). This evidence may explain why the Korean participants reported a higher level of behavioral intention. By contrast, Americans are known to be generally more responsive to research than Koreans, and this tendency may explain their more favorable responses to the messages in our message evaluation study.

Limitations and Suggestions for Future Research

Several limitations should be noted. First, we created norm and threat appeal messages based on well-documented conceptual and operational definitions. Following O'Keefe's suggestion that the message manipulation check can be omitted for studies on the effect of a message variation, no manipulation check was done in the current study. Instead, participants were required to identify which type of message appeal they viewed, and those who failed to discern a norm appeal message were removed. In spite of this screening procedure, it can be argued that participants might

not have perceived the messages as manipulated. To overcome this imitation, a post-hoc study was conducted to check whether people would understand the stimuli messages as the researchers intended. Thirty-three college students in South Korea participated in a short study where they were given each of the three Korean stimuli ads and asked to answer which of the three types of message appeal was used in each. Results indicated that 93% of the participants answered correctly for descriptive norm, while 91% and 97% answered correctly for injunctive norm and threat appeal. While this post-hoc study is limited in its scope and as a solid manipulation check method, its findings seem to indicate that people are able to understand the messages as manipulated.

The screening procedure also resulted in a unevenly distributed sample size. Nevertheless, the findings may not have been seriously affected by this unevenness because ANOVA is known to be quite robust in accounting for such sample size problems (Kikvidze & Moya-Larano, 2008). In addition, some participants' failure to discern the message appeals might indicate the difficulty of creating health messages that successfully convey the appeals that the message designer intended. This difficulty was especially evident in the case of norm appeals: fewer participants were able to identify norm messages compared to threat messages. Future research should explore various ways to address social norms and threats. In a related issue, the reason why the threat appeal was less effective than the injunctive norm appeal might also be related to the intensity of the threat

message. It is well known that the threat appeal is effective only when both threat and efficacy are high (Peter, Ruiter, & Kok, 2013). The current study's threat message may not have been strong enough to induce fear. But because the failure to induce fear with threat messages is a common problem in many threat appeal studies (e.g., Dillard & Peck, 2001; Nabi, 2003), more efforts should be made to develop threat messages that could successfully induce a high level of fear. Another worthwhile research endeavor would be to examine whether different formats of the same appeals matter and how these formats might affect persuasion.

Another limitation related to our comparison of message appeals concerns message credibility. While the threat appeal message was based on scientific evidence (NIH, 2011), the norm messages were not. As a result, the message credibility of each condition might have differed.

As for our study topic, we selected smoking—particularly secondhand smoke—because of the magnitude of its importance and consequences. Secondhand smoke is a viable topic for antismoking PSAs, especially because it could target both nonsmokers (by motivating them to express an anti-smoking opinion, as our message intended) and smokers (by making them feel pressure or guilt from antismoking norms). However, our findings may have been affected by differences in the two countries' social circumstances related to this topic. For example, because South Korea's population has a greater proportion of smokers, there might be fewer normative pressures against

smoking compared to the U.S. Moreover, this study's normative messages suggested that non-smokers should ask smokers to stop smoking. But in individualistic cultures, actions that entail interfering with other people's behavior might be considered *anti-normative*. If that is the case, this study's message topic might have had more of an influence on its results than the differential impact of the two types of appeal. Future research should therefore try to replicate our findings by exploring the differential impact of message appeals according to cultural characteristics in a variety of health contexts other than smoking.

Theoretical and Practical Implications

Despite these limitations, this study's findings provide theoretical and practical implications for cross-cultural advertising and health campaign message design.

Theoretically, it contributes to expanding health campaign research beyond U.S. settings by testing the roles of cultural characteristics in health persuasion, an area that remains wide open to exploration (Mollen et al., 2010). It also advances existing literature on the effectiveness of message appeals by comparing and contrasting relative effectiveness between norm and threat appeals and directly testing that impact on persuasion. As several studies have noted (Aaker & Williams, 1998; Chang, 2009), threat and norm appeals may produce different results according to the people to whom the messages refer and the salience with which they present their appeals.

Understanding cultural characteristics may help to improve predictions and explanations about how and why people respond to health messages.

Regarding practical implications, well-designed norm appeals may bring about an ad's or campaign's communication goals more effectively than threat appeals, particularly among young people and in the case of anti-secondhand smoke messages. But in health contexts other than secondhand smoke, people's own health problems are often threatened by other people's behavior. In such contexts, the way other people think and feel about one's own behavior may affect one's own health-related attitudes and behavior. On the other hand, threat appeal messages can be designed to target people in individualistic cultures, particularly when the messages focus on the self. While the current study used a threat appeal emphasizing a physical threat to the self, it might be worthwhile to consider a threat appeal that instead emphasizes social rejection. That type of threat might resonate more among young people, who tend to have less fear of physical threats than older people. Lastly, to avoid a null impact, the messages should also maintain appropriate levels of intensity (Hale & Dillard, 1995). To increase overall health campaign effectiveness and eventually improve public health, further efforts should be made to understand how different types of message appeals may be more or less effective across different health topics and audience cultures.

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국문초록

문화성격과 메시지소구가 금연광고 태도에 미치는 영향

: 미국 대 한국 비교연구

국문초록

본 연구는 간접흡연의 맥락에서 사회 규범 메시지와 위협 소구 메시지의 효과의 차이를 온라인 실험을 통해 검증하고자 했다. 특히 이들 메시지의 효과가 개인주의 문화가 강한 국가(미국)와 집단주의 문화가 강한 국가(한국)에서 다르게 나타나는지를 평가했다. 또한 국가적 차원과 개인적 차원의 문화 성향이 메시지 소구의 효과에 상호작용하는지를 평가했다. 본 실험은 2(문화: 개인주의 대 집단주의) × 3(메시지 소구: 기술적 규범 대 명령적 규범 대 위협) 집단 간 요인 설계를 채택하였으며, 한국과 미국의 비흡연 대학생들이 참여했다. 본 실험의 주요 결과 첫째, 문화에 관계없이 위협 소구 메시지 조건보다 규범 소구(특히 명령적 규범) 메시지 조건에서 행동 의도 수준이 더 높았다. 둘째, 집단주의 문화에 비해 개인주의 문화에서 위협 소구에 대한 반응이 더 호의적이었다. 반면, 집단주의 문화에서 규범 소구와 위협 소구에 대한 태도의 차이는 통계적으로 유의미하지 않았다. 회귀 분석 결과, 국가적 차원의 문화 성향과 메시지 소구의 관계에 대해 개인적 차원의 문화 성향은 조절 효과를 나타내지 않았다. 본 연구결과는 특히 집단주의 성향이 강한 우리나라에서 사회 규범 메시지의 효과와 활용가능성을 함의한다.

주제어: 금연캠페인, 문화, 규범 소구, 위협소구, 간접흡연, 공익광고, 메시지 효과