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WORKING PAPER

The Influence of the Self-Regulatory Focus on the Effectiveness of Stop-Smoking Campaigns for Young Smokers [*]

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Abstract

People's self-regulatory focus may determine the effectiveness of stop-smoking campaigns. An experiment with 226 young smokers investigated the persuasiveness of different emotional appeals (fear-relief versus sadness-joy) for different self-regulatory foci (prevention versus promotion). A congruency effect emerges for attitude toward the advertisement and behavioral intentions: Young smokers with a promotion focus are more persuaded by sadness-joy than fear-relief campaigns, and the opposite is true for those with a prevention focus. As predicted by the regulatory relevancy principle, ad involvement mediates this effect.

The Influence of the Self-Regulatory Focus on the Effectiveness of Stop-Smoking Campaigns for Young Smokers

Smoking addiction will likely cause 3 million deaths each year during 2025–2030 (World Health Organization [WHO] 2002). In the fight against the prevalence of smoking, policymakers focus mostly on convincing adolescents not to start smoking; people usually initiate the habit before they reach the age of 21 years (WHO 2008). However, smoking is still highly prevalent among young people. For example, in Belgium, a national health survey showed that 25% of the respondents between 15 and 24 years of age smoked, 19% said they were daily smokers, and 5% considered themselves heavy smokers (i.e., more than 20 cigarettes a day). On average, these young consumers smoked 13 cigarettes a day (het Wetenschappelijk Instituut Volksgezondheid 2008). Smoking cessation programs aimed at young smokers are still a good option though, because the less long people smoke, the less addicted they become, which makes it more easy to quit successfully (WHO 2008). But to discourage smoking, policymakers must create effective campaigns, which remains challenging especially due to the probability of defensive processing by consumers when they receive what they perceive to be personally threatening information (Liberman and Chaiken 1992).

The most common antismoking campaigns rely on fear-relief appeals (Hale and Dillard 1995), which encompass a threat–action format. That is, they focus first on people's vulnerability to severe health risks (e.g., lung cancer) and then offer a solution in the form of a feasible behavior (e.g., don't smoke) (Rogers 1983). Research into this type of appeal mainly works to discover the optimal intensity level for such fear-based messages (Witte and Allen 2000). Yet mixed results have prompted questions about its effectiveness, both in general and in health campaigns in particular (Hastings, Stead, and Webb 2004; Witte and Allen 2000). Some researchers suggest individual differences may be a source of these mixed findings (Burnett and Oliver 1979) and thus have considered the role of sociodemographics (Boster and Mongeau 1984) and personality (Wheatley and Oshikawa 1970), but without finding any significant moderators (Witte and Allen 2000). Moreover, few studies on antismoking messages specifically test the effectiveness of different types of message appeals or the moderating effect of individual differences (Pechmann et al. 2003; Smith and Stutts 2006).

To help fill these gaps, we take a different perspective and examine the importance of self-regulatory focus theory (Higgins 1997) for health and fear appeal research. The self-

regulatory focus is linked to specific emotional vulnerabilities (Higgins, Shah, and Friedman 1997) and has a significant influence on how people process persuasive messages (Pham and Higgins 2005). Accordingly, we investigate the effectiveness of two different messages, both with a threat–action format, that focus on different types of emotional health outcomes or frames. Specifically, we evaluate the persuasiveness of a fear-relief versus a sadness-joy appeal in stop-smoking campaigns targeted at young smokers with varying self-regulatory foci (Higgins 1997). We also study the underlying mechanism of the potential effects of emotion congruency on persuasion.

Theoretical background

Self-Regulatory Focus Theory

Higgins (1997) states that some people tend to approach pleasure by pursuing positive outcomes, whereas others tend to approach pleasure by avoiding negative outcomes. The former represents a promotion focus, and the latter corresponds with a prevention focus. In case of a promotion focus, people's goals relate to advancement and accomplishment, whereas if they have a prevention focus, they likely pursue goals related to security and protection. The strategies to achieve these goals also depend on the primary focus. A promotion focus implies the use of approach strategies, whereas a prevention focus generally indicates the use of avoidance strategies. These foci represent independent, individual states, in that people can have a predominant promotion or prevention focus, but they can also have both or neither. Moreover, the self-regulatory focus can be considered a chronic trait, developed in socialization processes throughout the person's life, or a temporarily induced state. We focus on the chronic self-regulatory focus, because chronically accessible constructs by definition are always present and thus always capable of influencing perceptions of external stimuli (Bargh et al. 1986).

The self-regulatory focus also determines specific emotional vulnerabilities, such that it influences the type of negative psychological situation people perceive and thus the intensity with which they experience a specific type of discomfort (Higgins et al. 1986). That is, during a negative event, individuals with a promotion focus experience more intense dejection-related emotions (e.g., sadness), because they interpret the event in terms of an absence of positive outcomes. However, people with a prevention focus feel more intense agitation-related

emotions (e.g., fear), because they read the event in terms of the presence of negative outcomes (Higgins et al. 1986). Higgins, Shah, and Friedman (1997) further show that people with a particular self-regulatory focus experience different positive emotions after attaining a goal; those with a promotion focus interpret success as obtaining a positive outcome which prompts cheerfulness-related emotions (e.g., joy), but people with a prevention focus read success in terms of avoiding negative outcomes and experience more intense quiescence-related emotions (e.g., relief).

Regulatory Relevancy Principle

Recent studies build on self-regulatory focus theory and find evidence of two types of matching principles related to the evaluations of external stimuli: *regulatory fit* and *regulatory relevancy* (Avnet and Higgins 2006). The regulatory fit principle indicates that the value of a stimulus depends on whether people evaluate it in a way that sustains their goal orientation (Higgins 2002). For example, respondents are willing to pay more for a product when they can evaluate it in a manner congruent with their self-regulatory focus, such as "think about what you could gain from choosing this product" for promotion-focused people versus "think about what you could lose by not choosing this product" for prevention-focused people (Higgins et al. 2003). Specifically, in the health domain, previous studies focused on this particular principle and examined, for example, the likelihood of engaging in eager versus vigilant health-related behaviors (e.g., Uskul, Keller, and Oyserman 2008), or the persuasiveness of negative (i.e., non-gains and/or losses through noncompliance) versus positive (i.e., gains and/or non-losses with compliance) health outcomes in communications. For example, Gerend and Shepherd (2007) and Updegraff et al. (2007) manipulate the gains of getting a vaccine or flossing teeth versus the losses of not getting the vaccine or not flossing, respectively.

Regulatory relevancy instead notes that the value of a stimulus depends on whether its benefits or outcomes are congruent with people's regulatory concerns. Focusing on different types of benefits, Safer (1998) finds that promotion-focused people prefer a luxurious product to a reliable alternative, whereas prevention-focused people exhibit the reverse preference. In a similar vein, Aaker and Lee (2001) show that a persuasive message for a fruit juice brand, as well the brand itself, obtained more favorable evaluations when a promotion focus was primed and when the selling proposition entailed energy creation. Respondents induced in a prevention

focus instead reacted more favorably when disease prevention was the highlighted product benefit. Related to this, Evans and Petty (2003) find increased message processing when the frame of a message for a breakfast product (i.e., an ideals frame, focusing on people's hopes, goals, and dreams, versus an oughts frame, stressing duties, obligations, and responsibilities) matches the audience's self-regulatory focus. In a health care context, Latimer and colleagues (2005) show that a promotion (versus a prevention) message about fruit and vegetable consumption induced more behavioral change in promotion-focused people, whereas the reverse occurred for prevention-focused people.

Researchers investigating the regulatory relevancy principle have also manipulated stimuli to reflect the two dominant goal orientations (Higgins 1997) by framing the outcome focus (e.g., Shah, Higgins, and Friedman 1998). That is, instead of framing the valence of the outcome (e.g., avoiding heart disease by eating more fruits and vegetables versus suffering heart disease by not eating more fruits and vegetables) as is done in studies investigating the regulatory fit principle, these studies frame the outcome focus (i.e., gain versus loss end states) (Brendl, Higgins, and Lemm 1995). Thus, the outcome is framed differently in terms of gains (gains vs. non-losses, e.g., obtaining heart fitness vs. avoiding heart disease by eating more fruits and vegetables) or in terms of losses (non-gains vs. losses, e.g., forgoing heart fitness vs. incurring heart disease by not eating more fruits and vegetables).

Studies of the regulatory relevancy principle in health research remain somewhat scarce though[1] (Latimer et al. 2008; Tykocinski, Higgins, and Chaiken 1994). Therefore, our primary objective is to examine the usefulness of this principle for research on health communication and fear appeals in general and for the design of effective stop-smoking campaigns in particular. Although previous studies have conceptualized outcome compatibility with self-regulatory focus in different ways, they have mostly focused on verbal stimuli and informational task- or product-related outcomes. Therefore, as a second objective, we examine the effects of stimuli that use emotions as arguments to persuade people to behave differently. This extension to emotional outcomes is relevant, because decision makers often use their own predictions of how they would feel in the future (Schwarz and Clore 1983, 1988). These types of affective considerations serve as strong arguments when they appear representative and relevant to the issue at hand (Pham 1998). Furthermore, as mainly emotions drive decisions about risky behaviors such as smoking (Lawton, Conner, and Parker 2007; Sheth, Newman,

and Gross 1991), our proposal is especially important for the design of effective health and antismoking campaigns.

Regulatory Relevancy Extended: Regulatory Focus–Emotion Congruency Hypothesis

Pham and Avnet (2004, 2009) propose and find that promotion-focused people generally rely more on affect in their evaluations than do prevention-focused people. However, these authors did not incorporate prevention-related emotions but instead focused only on promotion-related emotions. In addition, Pham and Avnet (2004) exclusively considered situations in which both the substance of the message and affective responses to it serve as relevant inputs for judgments. But what happens when both prevention- and promotion related emotions appear in an ad campaign, and when the study context makes affect highly relevant?

Specifically, in the context of smoking addiction, affective arguments may be the most important ones (Lawton, Connor, and Parker 2007; Sheth, Newman, and Gross 1991); we therefore expect affect to be a highly relevant, valid argument for all smokers (Pham 1998). As a result, we anticipate that in this particular context, prevention-focused people rely just as much on affect as promotion-focused people.

With this prediction, we further propose that the self-regulatory focus determines which emotions are most important. That is, we expect that goal-congruent versus -incongruent emotions in stop-smoking campaigns lead to more involvement and persuasion for smokers with a particular focus; as such, our regulatory focus–emotion congruency hypothesis is based on the regulatory relevancy principle (Higgins 2002).

In particular, we propose that different positive and negative emotions are congruent depending on people's chronic self-regulatory focus (Rusting 1998), as the self-regulatory focus determines the frequency with which people feel specific emotions in successful and unsuccessful situations (Higgins, Shah, and Friedman 1997). We expect that agitation emotions, such as fear and worry, and quiescence emotions, such as relief and calmness, are more congruent with a prevention focus, whereas dejection emotions, such as sadness and disappointment, and cheerfulness emotions, such as joy and happiness, are more congruent with a promotion focus (Higgins, Shah, and Friedman 1997).

Next, prior research into regulatory relevancy shows that the perceived relevance and evaluation of a stimulus depends on whether its content or emphasized outcomes are congruent with the main regulatory concerns of its target (Higgins 2002). A congruent versus incongruent stimulus is perceived as more personally relevant, which instigates more effortful processing and thus could lead to more favorable responses (Aaker and Lee 2001; Evans and Petty 2003). The regulatory relevancy principle thus predicts that stimuli focusing on goal-congruent versus incongruent emotional outcomes appear more personally relevant and induce more personal involvement, which could improve campaign effectiveness (Evans and Petty 2003). In application to the threat–action format in health messages, we predict:

H1a: For people with a chronic prevention focus, a fear-relief health campaign leads to more favorable attitudes toward the ad and behavioral intentions than does a sadness-joy health campaign.

H1b: For people with a chronic promotion focus, a sadness-joy health campaign leads to more favorable attitudes toward the ad and behavioral intentions than does a fear-relief health campaign.

H2a: For people with a chronic prevention focus, a fear-relief health campaign is more involving than a sadness-joy health campaign, which leads to more favorable attitudes toward the ad and behavioral intentions.

H2b: For people with a chronic promotion focus, a sadness-joy health campaign is more involving than a fear-relief health campaign, which leads to more favorable attitudes toward the ad and behavioral intentions.

These predictions mirror affect-as-information literature, which posits that emotions inform people's decision making in contexts in which they appear relevant (Pham 1998). However, further research has shown that even in an affect-relevant context, not all affect is equally relevant and relied on (Bosmans and Baumgartner 2005). We also propose that goal-congruent emotions are more relevant than goal-incongruent emotions (Higgins, Shah, and Friedman 1997) and as a result, more persuasive in stop-smoking campaigns (Higgins and Brendl 1995; Lawton, Conner, and Parker 2007; Sheth, Newman, and Gross 1991). By investigating the persuasiveness of specific emotions, we also extend prior research on the use of affect as information, which generally focuses on the difference between positive and negative emotions (Schwarz and Clore 2003). Only recently have researchers started to

question this limited focus and propose to give more attention to the specificity of emotions, because specific emotions, even of the same valence, could affect decision making in various ways (e.g., Faseur and Geuens 2007; Lerner and Keltner 2000; Raghunathan and Pham 1999). Moreover, we also propose the self-regulatory focus as a moderator of reliance on specific affect.

Method

Study Design

With this study, we attempt to examine whether different emotional frames or tones in stop-smoking campaigns lead to different responses, depending on the chronic self-regulatory focus of a relevant target group, namely, young smokers. Therefore, we conducted an experiment with a 2 (emotional tone: fear-relief versus sadness-joy) × 2 (the chronic self-regulatory focus: prevention versus promotion) between-subjects design. We manipulated the emotional tone, but measured the chronic self-regulatory focus.

Stimulus Materials: Stop-Smoking Campaigns

To develop two stop-smoking campaigns for young smokers, we relied on suggestions in prior antismoking research (e.g., Witte and Allen 2000; Wolburg 2006). Both ad messages used the same layout and followed a threat-action format (see the Appendix). Respondents were first exposed to a negative ad, in which a 30-year-old woman, who had smoked since the age of 16, testified about the negative health consequences she already had experienced. This proximal endorser served to highlight short-term health effects, in an attempt to counteract the optimistic health bias[2] that most young people have (Arnett 2000; Cohn et al. 1995). The ads also focused on the concept that "smoking = addiction" and noted the difficulty of quitting with the slogan, "Don't think you have plenty of time left to quit smoking!" The ads stated explicitly that smoking was not something people could give up whenever they wanted (Arnett 2000; Wolburg 2006).

Next, respondents saw a positive ad panel, in which the same person tried to convince them to quit by telling about the benefits she had experienced after quitting. The ad further tried

to motivate young smokers to make an actual plan of action, with the slogan "Set the date: quit smoking" (Prochaska and DiClemente 1982). To increase perceptions of self-efficacy regarding the ability to quit, the ad contained the contact number for a stop-smoking telephone helpline, which has been proven highly effective (Platt et al. 1997).

To elicit specific negative and positive emotional tones, in accordance with self-regulatory focus theory (Higgins 1997), the ad messages offered a specific combination of color, images, and text, including dark colors for the negative ad panels and bright colors for the positive ones. We developed four portraits of the same spokeswoman in which her face expressed four different emotions. Because framing is effective in eliciting specific emotional responses (Schneider et al. 2001), we framed the negative and positive ad panels differently with respect to their outcome focus (i.e., loss versus non-gain in the negative ad panels; non-loss versus gain in the positive ad panels). As Higgins and colleagues (1986) have stated, on the one hand, focusing on the absence/presence of negative information leads to feelings that vary from being relieved to agitated; on the other hand, focusing on the presence/absence of positive information results in variations from feeling excited to dejected.

Pretest of Materials

In a pretest, we checked whether the ad panels evoked the intended emotional tone. In total, 28 young smokers (53.6% women), who did not participate in the main experiment, viewed each of the four ad panels in random order. After seeing each panel, they indicated the extent to which they felt the ad evoked specific emotions on seven-point scales (1 = "the ad does not evoke this emotion at all" to 7 = "the ad evokes this emotion completely"). We assessed eleven negative emotions, including seven agitation-related (i.e., agitated, anxious, afraid, worried, panicky, nervous, and tense; $\alpha = .95$) and four dejection-related (i.e., depressed, sad, unfulfilled, and discontented; $\alpha = .93$), as well as eleven positive emotions, which included seven cheerfulness-related (i.e., happy, joyful, optimistic, encouraged, thrilled, excited, and enthusiastic; $\alpha = .96$) and four quiescence-related (i.e., relieved, peaceful, contented, and fulfilled; $\alpha = .93$) emotions.

Paired-sample t-tests checked the manipulation (unless otherwise specified, df = 27). For the negative ads, respondents indicated the fear ad ($M = 4.69$) provoked more agitation than the sad ad ($M = 3.57$, $t = 4.03$, $p < .001$). Similarly, they rated the sad ad ($M = 4.46$) higher on

dejection than they did the fear ad (M = 2.77, t = -4.78, p < .001). The positive ads also elicited the expected emotional tones: Respondents indicated more quiescence after seeing the relief ad (M = 4.54) than after seeing the joy ad (M = 3.67, t = 2.19, p = .04) and rated the joy ad (M = 4.99) higher on cheerfulness than the relief ad (M = 3.53, t = -4.81, p <.001).

Procedure and Sample

We wanted to measure the chronic self-regulatory focus to investigate its impact on young smokers' evaluations of different emotional stop-smoking campaigns. However, measuring the self-regulatory focus at the beginning of the experiment, before ad exposure, might artificially influence subsequent evaluations of the experimental stimuli. To avoid this effect, we could measure chronic self-regulatory focus at the end of the questionnaire, but in this case, the self-regulatory focus could also be primed by exposure to the ads (Higgins 1997). Ad exposure only influences the temporary self-regulatory focus, but respondents might misinterpret it as their chronic focus. Therefore, responses to the chronic self-regulatory focus measurement scale could be biased due to prior ad exposure. The other alternative is to measure the chronic self-regulatory focus independently of the actual experiment, such as at a distant time before the experiment (e.g., Tykocinski, Higgins, and Chaiken 1994). This option avoids biasing effects, but also demands more than one round of questions, which likely reduces the number of respondents and increases the time and cost requirements. Faced with these trade-offs, we decided to measure chronic self-regulatory focus both at the end of the questionnaire and a couple of days in advance and thus to verify if they produce different results[3].

For the first version, in which we measured chronic self-regulatory focus at the end of the questionnaire, 139 young smokers were recruited in Belgium by the online research agency Global Market Insite, Inc. In an online survey, we asked about the respondents' ages and smoking behaviors (among other health-related behaviors); only smokers between 18 and 26 years of age continued to the rest of the questionnaire. In both randomly assigned message conditions, the respondents were told that they would see a campaign consisting of two parts, as is common in real magazines (e.g., the first part on page 2, the second part on page 4), and that they should look at each ad panel carefully. The ad panels appeared in a sequential manner and constituted the whole campaign, such that respondents were told to answer the questions with regard to the whole campaign. These questions provided the dependent measures and

manipulation checks. At the end of the questionnaire, we measured the chronic self-regulatory focus and some sociodemographic traits and thanked them for participating.

In another procedure in which we measured the chronic self-regulatory focus a couple of days in advance, the participants were recruited through digital learning platforms of two Belgian public universities and the online newsletter of a regional newspaper. This procedure consisted of two phases. In a first phase, 2759 people completed questions about their smoking behavior (among other health-related behaviors), their chronic self-regulatory focus, and some sociodemographic traits. Only smokers between 18 and 26 years of age could enter the second phase, which resulted in a sample size of 391 young smokers. An e-mailed invitation was sent at least three days after they participated in the first phase. In the end, 87 respondents actually responded to the second phase as well. When they began the second phase, respondents were randomly assigned to one of the two stop-smoking campaigns and completed the second part of the questionnaire described for the first procedure.

In total, we thus obtained a convenience sample of 226 smokers between the ages of 18 and 26 years (39.4% men). Of these, 74% smoked daily, and 26% smoked occasionally. On average, the daily smokers smoked 11.73 cigarettes a day and for a period of 6.69 years; the occasional smokers smoked 13.73 cigarettes a month for 5.48 years. Approximately 63% of our sample had tried to quit smoking at least once.

Measures

Chronic Self-Regulatory Focus

We measured the chronic self-regulatory focus with the 18-item, seven-point scale (1 = "this statement is not at all true for me" to 7 = "this statement is very true for me") developed by Lockwood, Jordan, and Kunda (2002). This scale consisted of both a promotion (e.g., "I typically focus on the success I hope to achieve in the future"; $\alpha = .86$) and a prevention (e.g., "I often imagine myself experiencing bad things that I fear might happen to me"; $\alpha = .80$) dimension. We averaged the matching items to obtain a separate promotion and prevention score for each respondent.

Dependent Measures

We assessed attitude toward the ad (Aad) with three seven-point semantic differential scales that began with "The campaign was…" and were anchored by "bad–good," "ineffective–effective," and "unconvincing–convincing" ($\alpha = .83$). We computed an Aad measure for each respondent by averaging the scores on the three items. We also measured the overall behavioral intention (BI) to quit smoking after ad exposure with three seven-point Likert scales (1 = "totally disagree" to 7 = "totally agree"): "This campaign could motivate me to quit smoking," "This campaign could help me to quit smoking," and "After seeing this campaign, I would like to quit smoking" ($\alpha = .88$). The overall BI measure was the average of the scores on all three items.

In line with the concept of stages of change in smoking cessation (e.g., Prochaska and DiClemente 1983; Prochaska, DiClemente, and Norcross 1992), we included three intention questions to assess readiness to quit. That is, because stop-smoking campaigns primarily attempt to convince smokers of the negative health consequences of their behavior and the need to take action using concrete plans and measures (Block and Keller 1998), we measured the degree to which the campaign made the respondent (1) think about the negative consequences of smoking, (2) think about quitting, and (3) want to find out more about specific methods to quit smoking, using seven-point "disagree–agree" Likert scales. These items were not pooled.

Finally, to assess ad involvement, respondents completed four seven-point semantic differential scales: "This campaign is … to me personally," anchored by "irrelevant–relevant," "unimportant–important," "useless–useful," and "unnecessary–necessary" ($\alpha = .90$) (Zaichkowsky 1994). The mean score of these four items provided a global measure of ad involvement.

Results

Manipulation Check

Similar to the pretest, we included manipulation checks for the different ad panels in the main study. The end of the questionnaire reexposed respondents to the first negative ad panel, after which they filled in the same seven-point emotion intensity scales as in the pretest. We

followed the same procedure for the positive ad panel[4]. However, due to space and time constraints, we only included two items per type of emotion: for dejection, sad and disappointed (r = .69); for agitation, afraid and worried (r = .59); for cheerfulness, delighted and cheerful (r = .84); and for quiescence, calm and quiet (r = .88). Independent-sample t-tests confirmed the pretest results. Specifically, respondents considered the fear ad (M = 4.17) more agitating than the sad ad (M = 3.83, t = 1.93, p = .05); the sad ad (M = 3.84) more dejecting than the fear ad (M = 3.45, t = -2.13, p = .03); the relief ad (M = 4.40) more quiescent than the joy ad (M = 4.06, t = 1.88, p = .06); and the joy ad (M = 4.62) more cheerful than the relief ad (M = 3.66, t = -5.29, p < .001) (in all cases, df = 224).

Operationalization of the Predominant Chronic Self-Regulatory Focus

Our sample was more promotion focused (M = 5.14) than prevention focused (M = 4.29, t (225) = -10.26, p < .001), probably an effect of the respondents' Western cultural background and predominantly independent self-view (Lee, Aaker, and Gardner 2000). The two subscales correlated only slightly (r = .25, p < .001), in line with Higgins (1997).

To test our hypotheses, we needed a measure of the predominant chronic self-regulatory focus and followed Lockwood, Jordan, and Kunda (2002)[5] by calculating a difference score, for which we subtracted the mean prevention score from the mean promotion score. Positive scores represent a predominant chronic promotion focus; negative scores imply a predominant chronic prevention focus.

Experimental Effects on Aad and BI

We regressed our dependent variables on the type of emotional tone in the stop-smoking campaign, the standardized difference score of promotion minus prevention as a measure of the predominant chronic self-regulatory focus, and their interaction[6]. As the results in Table 1 reveal, the regression analysis on Aad yielded a significant main effect of the chronic self-regulatory focus. We also found a significant interaction effect of both independent variables. Similar results emerged for the measure of overall BI, as well as the three specific BIs, that is, to think about the negative consequences of smoking, to think about quitting, and to find out more about specific methods to quit smoking.

[Insert Table 1 about here]

To clarify these interaction effects, we conducted simple slope analyses, as suggested by Baron and Kenny (1986) and outlined by Aiken and West (1996). In accordance with our hypotheses, we tested the simple effect of the type of emotional campaign in the two extreme chronic self-regulatory foci, considering the minimum (-3.77) versus the maximum (3.63) score of Z(promotion – prevention). For Aad, this analysis revealed that the slope, which indicates the impact of a type of emotional campaign, was significant for chronic prevention people (b = -1.47, p = .03) and for chronic promotion people (b = 1.44, p = .02). As expected, the negative effect for the chronic prevention focus indicated that among these respondents, the fear-relief campaign induced a more positive Aad than the sadness-joy campaign, whereas the positive effect for the chronic promotion focus implied the reverse finding (see Figure 1).

[Insert Figure 1 about here]

Similarly, for the overall BI measure, the slope for the type of emotional campaign was significant and negative for a chronic prevention focus (b = -1.71, p = .02) and significant and positive for a chronic promotion focus (b = 1.78, p = .01) (see Figure 2). That is, people with a predominant chronic prevention focus were more willing to quit after being exposed to a fear-relief campaign than a sadness-joy campaign, whereas the reverse was true for people with a predominant chronic promotion focus.

[Insert Figure 2 about here]

Finally, we found matching results for the three specific BIs: (1) intention to think about the negative consequences of smoking (prevention: b = -1.63, p = .02; promotion: b = 1.50, p = .03), (2) intention to think about quitting (prevention: b = -2.18, p = .01; promotion: b = 2.46, p < .01), and (3) intention to find out more about specific methods to quit smoking (prevention: b = -2.22, p = .01; promotion: b = 1.97, p = .01). In summary, these results fully supported H1a and H1b.

Mediation Analyses of Experimental Effects on Aad and BI

To examine whether ad involvement mediated the interaction between the emotional tone and the self-regulatory focus, we conducted two additional analyses, as prescribed by Baron and Kenny (1986). That is, (a) to prove that the independent variables affected the

mediator in the same way as the dependent variables and (b) to prove that the mediator affected the dependent variables even when controlling for the effects of the independent variables (see Table 2).

First, we ran the same regression analysis with the hypothesized mediator, ad involvement. The results showed a significant main effect of the chronic self-regulatory focus (β = -.22, p = .04) and a significant interaction effect of both independent variables on ad involvement (β = .21, p = .05). The simple slope analyses indicated that promotion-focused respondents were more personally involved in a sadness-joy campaign than in a fear-relief campaign, though the difference was only marginally significant this time (b = 1.13, p = .10). Prevention-focused people instead considered the fear-relief campaign more involving than the sadness-joy campaign (b = -1.52, p = .03) (see Figure 3).

[Insert Figure 3 about here]

Second, we regressed Aad on the same independent variables, together with the standardized score of ad involvement (see Table 2). As opposed to the prior regression analysis, the interaction effect of the independent variables was no longer significant, and its regression coefficient decreased significantly (t(223) = 24.27, p < .001). In this scenario, only ad involvement had a significant positive effect on Aad. We found similar results for the overall BI to quit smoking (t(223) = 9.89, p < .001) and intention to think about the negative consequences of smoking (t(223) = 9.01, p < .001). These combined findings support the hypothesized full mediated moderation process (Baron and Kenny, 1986).

However, the intentions to think about quitting and find out more about specific methods to quit smoking only indicated partial mediation, as the interaction effects were still significant. Nonetheless, the regression coefficient of the interaction effect on both dependent variables decreased significantly when we incorporated the mediator in the regression model (intention to think about quitting t(223) = 11.32, p < .001; intention to find out more about methods to quit t(223) = 8.44, p < .001). Thus, we confirmed H2a and H2b; respondents felt more involved in a health campaign and were more persuaded by it when its emotional tone was congruent with their predominant chronic self-regulatory focus.

[Insert Table 2 about here]

Discussion

We have hypothesized and confirmed that self-regulatory focus theory in general and the regulatory relevancy principle in particular have important consequences for the persuasiveness of stop-smoking campaigns. As we expected, ad campaigns designed to motivate young smokers to quit that match their emotional tone to the predominant chronic self-regulatory focus of the audience induced more involvement and persuasion. Specifically, young smokers with a promotion focus rated the sadness-joy health campaign as more personally involving, which led to a more favorable Aad and BI, whereas for young smokers with a prevention focus, the fear-relief health campaign led to more personal involvement and more favorable Aad and BI. These findings appear to be driven by the strong link between the self-regulatory focus and specific emotional vulnerabilities, which makes different emotions accessible for and congruent with different motivational orientations (Rusting 1998). These results extend findings by Zhao and Pechmann (2007) regarding the congruency effects on relevancy and persuasion measures when they frame social consequences in terms of the self-regulatory focus (i.e., social approval versus disapproval) to prevent smoking initiation in adolescents.

In line with previous studies, our results imply that self-congruent campaigns could be, but are not necessarily, evaluated more favorably. Regulatory relevancy effects are a matter of increased personal relevance (Evans and Petty 2003). In the context of self-regulatory focus theory, Aaker and Lee (2001) confirm that congruent messages provoke closer scrutiny, which leads to better recall and differentiation between weak and strong arguments. Congruency effects on beliefs, attitudes, and behaviors therefore are likely only in the case of strong arguments and messages (Petty and Cacioppo 1986).

Because our results indicate favorable congruency effects on Aad and BI, the respondents probably considered our messages relatively strong. However, our dependent variables only measured specific ad effects rather than general intentions to quit smoking; to find effects on the latter would be much more difficult, because a one-time exposure to an antismoking campaign usually has a relatively small behavioral impact (Pechmann et al. 2003; Wolburg 2006). Researchers and practitioners might focus more on direct behavioral changes though. For example, because self-efficacy is crucial for effective behavioral changes (Milne, Paschal, and Orbell 2000), campaigners could focus more on the perceived feasibility of stop-

smoking guidelines, including using input from ex-smokers to develop action plans or finding ways to offer actual quitters more intense emotional support (Wolburg 2006). Also, smokers could be exposed more intensively and consistently to stop-smoking messages. In addition, research should consider other health issues and target groups to examine the conditions in which behavioral effects might be expected.

Because congruent campaigns lead to more involvement, we also note their potentially hidden effects. Some health topics, such as smoking, have been widely discussed in popular media, so people should be knowledgeable about them, which implies that new messages likely do not induce real or drastic behavioral changes. Instead, we should anticipate latent effects, such as those manifested in the strength dimensions of attitudinal and behavioral constructs. The greater involvement induced by a self-congruent health campaign should lead to more in-depth processing, which could create stronger attitudes and BI, which in turn are stronger predictors of actual behavior (Petty and Cacioppo 1986). Further research might include measures of not only attitude favorability but also attitude strength. Similarly, health practitioners should use self-congruent campaigns to help strengthen their patients' preliminary good intentions or remind them of their existing resolutions and thus make actual changes more likely.

In general, we have shown that the chronic self-regulatory focus as an individual difference can be useful for segmenting an audience and targeting messages accordingly. Our reliance on the typical threat-action format means our results contribute to the health and fear appeal research. Specifically, traditional fear-relief appeals seem effective for real health campaigns if those campaigns address prevention-focused people, who are especially concerned about negative outcomes and minimal goals, such as duties and responsibilities (Higgins 1997). For other audience profiles, focusing on positive outcomes and other types of goals, such as accomplishments and ambitions, a different type of emotional appeal appears more persuasive. For these promotion-focused consumers, we recommend health campaigns that use the emotional tones congruent with this target group, that is, dejection and cheerfulness.

If the chronic self-regulatory focus of the target group is unknown to policymakers, they could infer it using other variables, such as cultural backgrounds (Lee, Aaker, and Gardner 2000). For example, in the West, people tend to possess a more independent self-view and

define themselves in terms of their own unique goals, preferences, and attitudes—which implies a greater promotion than prevention focus. In Eastern countries though, people tend to possess a more interdependent self-view and define themselves in terms of their relationships with others. Consequently, they generally are more prevention than promotion focused (Lee, Aaker, and Gardner 2000). The chronic self-regulatory focus also may correlate with other sociodemographic variables, in that its accessibility and strength depends mainly on the frequency with which people are exposed to specific promotion- versus prevention-oriented situations (Higgins 1997; Higgins and Brendl 1995). For example, getting married, buying a house, and having children create responsibilities, which could result in a more intense prevention focus. Also, professional occupations could determine whether people are more promotion versus prevention focused. Managers and salespeople usually have to focus on identifying opportunities and maximizing profits; they should be more promotion focused. Accountants and researchers have to focus more on accuracy and therefore may be more prevention focused (Förster, Higgins, and Bianco 2003).

Ad campaigns might have even greater effect if the audience's self-regulatory focus can be primed by the context prior to exposure to the health message. For example, a preceding ad might focus on ideals (e.g., hopes, ambitions) to activate a promotion focus, instead of on oughts (e.g., obligations, responsibilities), which would activate a prevention focus. Media contexts could aid this effort; in magazines or television shows focused on diseases and other medical issues, prevention-focused health messages should be more effective, whereas media that describe how to live an active and successful life may provide a better setting for promotion-focused health messages. However, such priming effects usually occur only for superficial processing, so these recommendations seem more effective for situations in which personal stakes are low (e.g., messages designed to prevent young people from ever starting to smoke versus stop-smoking messages for smokers) (Thompson et al. 1994).

The regulatory relevancy principle is valuable in a health context (Higgins 2002), so an important challenge remaining for health researchers and practitioners is to identify other promotion- and prevention-related health outcomes to validate our results. For example, Geeroms, Verbeke, and Van Kenhove (2008) identify five health-related motivational orientations, according to which health is about energy, emotional well-being, social responsibility, outward appearance, and physical well-being. These motives reveal links to two important communication dimensions, a reliance on information versus affect and a focus on

the independent versus interdependent self. These dimensions also correlate with the self-regulatory focus (Lee, Aaker, and Gardner 2000; Pham and Avnet 2004). Thus, promotion-focused people should be more concerned with health in terms of energy, whereas prevention-focused people may value health in terms of social responsibility. Research should validate this prediction, as well as investigate the relationships among these types of motivational frameworks.

Another suggestion for research would be to investigate the link between the chronic self-regulatory focus and optimistic health biases, as well as how this might interact with reactions to different health campaigns[7]. For example, Chang, Asakawa, and Sanna (2001) find that people from individualistic cultures are more optimistic about the occurrence of positive events and nonoccurrence of negative events, whereas people from collectivistic cultures are significantly more pessimistic. Similarly, in response to a health campaign focusing on potential negative health outcomes, promotion-focused people may exhibit a more optimistic health bias than prevention-focused people. In this case, a health campaign focusing on potential positive health outcomes could be more effective for promotion- than for prevention-oriented people.

Finally, we have contributed to affect-as-information literature by showing that specific emotions explain consumer responses, beyond their valence (e.g., Lerner and Keltner 2000), and that people's chronic goal orientation determines their reliance on these specific emotions. We also confirm the validity of the regulatory relevancy principle for emotional stimuli, which adds nuance to the propositions of Pham and Avnet (2004, 2009): In highly personal and affective contexts, differential levels of reliance on affect might disappear, regardless of the foci, leading to equally strong emotion congruence effects in both. Such interactions between individual differences and surroundings emerge in other domains as well (e.g., Howlett, Kees, and Kemp 2008). We therefore suggest the need to take specific research contexts into account in examinations of the role of the self-regulatory focus or other individual differences for processing and evaluating communications.

Endnotes

1. Kim (2006) and Zhao and Pechmann (2007) offer notable exceptions, but both these studies focus on preventing smoking initiation and target nonsmokers, whereas we consider how to stop smoking and target young smokers. This context differs in two main respects (e.g., Wolburg 2006). First, nonsmokers are less personally involved in the issue of smoking than smokers, which has a significant impact on the type of processing (i.e., heuristic or in-depth) and persuasion outcomes (i.e., weak versus strong attitudes) (Petty and Cacioppo 1986). Second, nonsmokers perceive smoking as a rational issue, whereas smokers regard it as emotional (Sheth, Newman, and Gross 1991; Wolburg 2006), which influences the diagnosticity of arguments and the impact of different types of information, such as substance versus affect (Pham 1998).
2. With an optimistic health bias, people, especially young people, believe that adverse events will not happen to them (Arnett 2000), which can lead to "boomerang" effects, that is, more risky behaviors (Liberman and Chaiken 1992; Wolburg 2006).
3. Respondents recruited by both procedures were merged into one data set. For the analyses, the type of procedure served as a covariate, but did not have any impact on the results, so we do not discuss it further.
4. This type of message–component research design is recommended for fear appeals that typically consist of two parts (Dillard and Anderson 2004).
5. Edwards (1994) states that a difference score is appropriate only if the regression coefficients of its separate components in the dependent variables are equal in magnitude but opposite in sign (see also Lockwood, Jordan, and Kunda 2002). We calculated t-statistics for all our hypothesized mediators and dependent variables (see Gujarati 2003) and confirm the necessary assumptions were met.
6. We also considered the following covariates: type of chronic self-regulatory focus measure (at least three days prior to ad exposure versus after ad exposure), prior mood, gender, age, educational level (less versus higher educated), frequency of smoking (daily versus occasionally), number of cigarettes per month, number of years as a smoker, and prior attempts to quit (yes versus no). Although some main effects appeared, none of the covariates affected the results reported herein, so we do not discuss them further.
7. We thank an anonymous reviewer for this suggestion.

Appendix: Stop-Smoking Campaigns

Fear-Relief Health Campaign

Part 1: Fear Campaign

Translation of the Fear Campaign

Slogan: “Don’t think you have plenty of time left to quit smoking!!! Smoking and not getting sick at the same time? You will be the only one then…”

Testimonial: “Stephanie (30 years old) testifies: I started smoking at the age of 16 because of a couple of friends. We felt cool, admired and so grown-up. Back then, I didn’t feel like a true addicted smoker. I thought that I could smoke for a few years and that I could quit whenever I wanted. All those years I knew that smoking was unhealthy and caused different diseases, but I always thought that this was not going to happen to me… However, after a few years as a smoker, bad coughing fits, raising phlegm, were bothering me. I always felt sick, and the doctor diagnosed chronic bronchitis… So now, I know better…”

Text below: “Warning: 60% of all young smokers are, just like Stephanie, very addicted to nicotine!
Young people know the risks of smoking but believe that they can smoke for a few years without running actual risks and then quit whenever they want. Nothing is further from the truth! Smoking is a very severe addiction that you do not get rid of easily. The longer a person smokes, the more difficult it gets to quit, and the greater the risk of getting unpleasant and dangerous diseases:

- Smokers get yellow teeth and bad breath.
- Smokers are bothered with bad coughing fits with phlegm.
- Smokers are often short of breath and often wheeze.
- Smokers often suffer from a chronic bronchitis.
- Smokers run greater risk of having heart and vascular diseases.
- Smokers run a much higher risk than non-smokers of getting lung cancer… and eventually, a much higher risk of a severe and terminal death struggle and early death”

Part 2: Relief Campaign

SET THE DATE: STOP MET ROKEN EN MAAK KOMAF MET JE ONGEZOND LEVEN!!!

GETUIGENIS: Stefanie (30 jaar) vertelt: Door jarenlang intensief te roken kreeg ik een zware chronische bronchitis. Ik moest voortdurend hoesten, had last van slijmen en piepende longen. Daarom ben ik vorig jaar gestopt met roken. Stoppen was moeilijker dan verwacht, maar toch ben ik erin geslaagd en sindsdien zijn de zware hoestbuiten en piepende longen verdwenen en kan ik opnieuw opgelucht ademhalen!

Stoppen met roken vermindert een aantal belangrijke gezondheidsrisico's:

- De longen werken na een paar dagen al beter zodat het hoesten vermindert en de ademhalingsproblemen verbeteren.
- Na 1 dag vermindert het risico op een hartaanval al aanzienlijk.
- Na 5 jaar is het risico op hart- en vaataandoeningen nog slechts half zo groot.
- Het risico op longkanker vermindert aanzienlijk. Na 10 jaar is het risico nog maar half zo groot als toen men rookte.

Doe dus zoals Stefanie en bepaal nu voor jezelf een dag om te stoppen met roken!

Wij kunnen u helpen! Bel onze **ANTIROOKLIJN** op het nummer 0800/00.11.00. Dit is een gratis hulplijn, elke dag beschikbaar van 10u tot 22u. Getrainde medewerkers geven je advies en informatie over hoe je het best van de sigaretten kunt afblijven. Je kunt er ook onze gids aanvragen die stap-voor-stap praktisch advies geeft om succesvol te stoppen met roken!

Translation of the Relief Campaign

Slogan*:* "Set the date: Quit smoking and give short shrift to your unhealthy life!!!"

Testimonial*:* "Stephanie (30 years old) testifies: Due to many years of heavy smoking, I was diagnosed with a severe chronic bronchitis. I coughed continuously; I was bothered with coughing, phlegm, and wheezing lungs. That is why I quit smoking last year. Quitting was harder than expected, but nevertheless, I succeeded and since then, these bad coughing fits and wheezing lungs have disappeared, and I can heave a sigh of relief!"

Text below*:* "Quitting smoking reduces a number of severe health risks:

- After a few days already, the lungs function better, which reduces coughing fits and breathing problems.
- After one day, the risk of a heart attack reduces significantly.
- After five years, the risk of heart and vascular diseases has reduced by half.
- The risk of getting lung cancer reduces significantly. After 10 years, this risk has reduced to half compared with when one smoked.

Follow Stephanie's lead and set your own date to quit smoking!
We can help you! Call our stop-smoking telephone helpline at 0800/00.11.00. This is a free helpline, available every day from 10 a.m. until 10 p.m. Trained workers will give you advice and information on how to quit smoking in the best way possible. Here, you can also order our manual which gives you step-by-step, practical advice to quit smoking successfully."

Sadness-Joy Health Campaign

Part 1: Sadness Campaign

Translation of the Sadness Campaign

Slogan: “Don’t think you have plenty of time left to quit smoking!!! Smoke and stay healthy at the same time? You will be the only one then…”

Testimonial: “Stephanie (30 years old) testifies: I started smoking at the age of 16 because of a couple of friends. We felt cool, admired, and so grown-up. Back then, I didn’t feel like a true addicted smoker. I thought that I could smoke for a few years and that I could quit whenever I wanted. All those years I knew that smoking endangers your good shape and health, but I always thought that this was not going to happen to me… However, after a few years as a smoker, I felt that exercising did not go as smoothly as before. I felt less fit and dynamic and my shape got worse… So now, I know better…”

Text below: “Warning: 60% of all young smokers are, just like Stephanie, very addicted to nicotine!
Young people know the risks of smoking but believe that they can smoke for a few years without running actual risks and then quit whenever they want. Nothing is further from the truth! Smoking is a very severe addiction that you do not get rid of easily. The longer a person smokes, the more difficult it gets to quit, and the worse your shape and health get:

- Smokers do not have white teeth and nice breath anymore.
- Smokers have less smell and taste abilities.
- Smokers often do not feel well and are less dynamic than non-smokers.
- Smoking and exercising do not go together, because the lungs of smokers do not function properly.
- Smokers are in a worse shape than non-smokers.
- Smokers are, overall, less healthy than non-smokers… and eventually, they often have a shorter life with less quality.”

Part 2: Joy Campaign

SET THE DATE: STOP MET ROKEN EN START EEN GEZOND LEVEN!!!

GETUIGENIS: Stefanie (30 jaar) vertelt: Door jarenlang intensief te roken voelde ik me steeds minder fit en actief en mijn conditie ging sterk achteruit. Zelfs een kleine inspanning, zoals de trappen oplopen, werd een zware opdracht. Daarom ben ik vorig jaar gestopt met roken. Stoppen was moeilijker dan verwacht, maar toch ben ik erin geslaagd en sindsdien voel ik me in topvorm. Mijn conditie is sterk verbeterd en sinds enkele weken ben ik zelfs al volop aan het trainen voor een loopwedstrijd…

Stoppen met roken heeft heel wat positieve effecten op je gezondheid:

- De bloedcirculatie in het hele lichaam verbetert al na 20 minuten.
- Na enkele dagen verbeteren de smaak- en geurzin al aanzienlijk.
- Na 1 week wordt het ademen gemakkelijker en het energieniveau verhoogt.
- Na 2 weken verbetert de zuurstoftoevoer zodat sporten gemakkelijker wordt.

Doe dus zoals Stefanie en bepaal nu voor jezelf een dag om te stoppen met roken!

Wij kunnen u helpen! Bel onze **ANTIROOKLIJN** op het nummer 0800/00.11.00. Dit is een gratis hulplijn, elke dag beschikbaar van 10u tot 22u. Getrainde medewerkers geven je advies en informatie over hoe je het best van de sigaretten kunt afblijven. Je kunt er ook onze gids aanvragen die stap-voor-stap praktisch advies geeft om succesvol te stoppen met roken!

Translation of the Joy Campaign

Slogan: “Set the date: Quit smoking and start a healthy life!!!”

Testimonial: “Stephanie (30 years old) testifies: Due to many years of heavy smoking, I felt less fit and dynamic and my shape was getting worse. Even the smallest effort, such as running up stairs, became a difficult task. That is why I quit smoking last year. Quitting was more difficult than expected, but nevertheless, I succeeded and since then, I really feel in shape. My condition has improved significantly and in just a few weeks, I have even started training for a running contest…”

Text below: “Quitting smoking has a number of positive health effects:

- The blood circulation in your whole body improves after 20 minutes.
- After a few days, smell and taste improve significantly.
- After one week, breathing gets easier, and your energy level increases.
- After two weeks, the oxygen supply in your body improves, making exercising much easier.

Follow Stephanie’s lead and set your own date to quit smoking!
We can help you! Call our stop-smoking telephone helpline at 0800/00.11.00. This is a free helpline, available every day from 10 a.m. until 10 p.m. Trained workers will give you advice and information on how to quit smoking in the best way possible. Here, you can also order our manual which gives you step-by-step, practical advice to quit smoking successfully.”

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TABLE 1

Standardized Regression Coefficients

	Attitude Toward the Ad	Overall Behavioral Intentions	Intention to Think About Negative Consequences of Smoking	Intention to Think About Quitting	Intention to Find Out More About Methods to Quit
Emotional Tone	.01	.02	-.01	.06	-.03
Chronic Self-Regulatory Focus	-.25**	-.29***	-.20*	-.28***	-.25**
Interaction Term	.24**	.26***	.24**	.31***	.28***

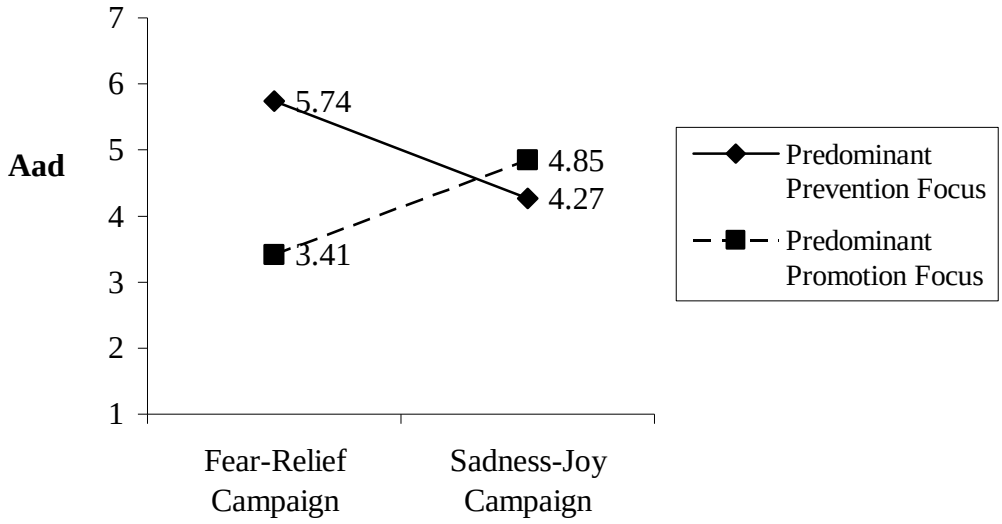
* $p < .10$; ** $p < .05$; *** $p < .01$

TABLE 2
Standardized Regression Coefficients, Controlling for Ad Involvement

	Attitude Toward the Ad	Overall Behavioral Intentions	Intention to Think About Negative Consequences of Smoking	Intention to Think About Quitting	Intention to Find Out More About Methods to Quit
Emotional Tone	.04	.06	.02	.10*	.01
Chronic Self-Regulatory Focus	-.13	-.17**	-.09	-.16*	-.14
Interaction Term	.12	.15†	.14	.19**	.17*
Ad Involvement	.58***	.53***	.49***	.58***	.52***

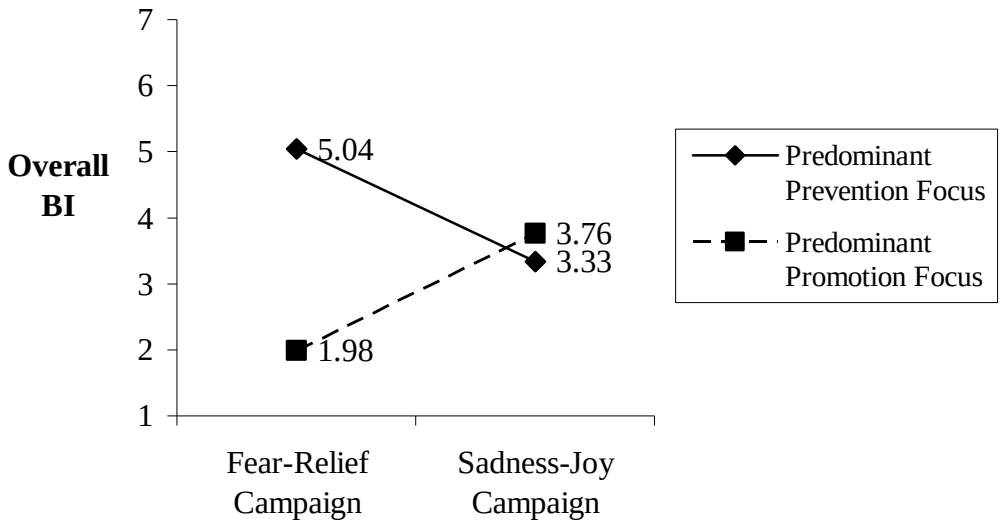
* $p < .10$; ** $p < .05$; *** $p < .01$

FIGURE 1
Interaction Effect: Emotional Tone × Chronic Self-Regulatory Focus on Attitude toward the Ad



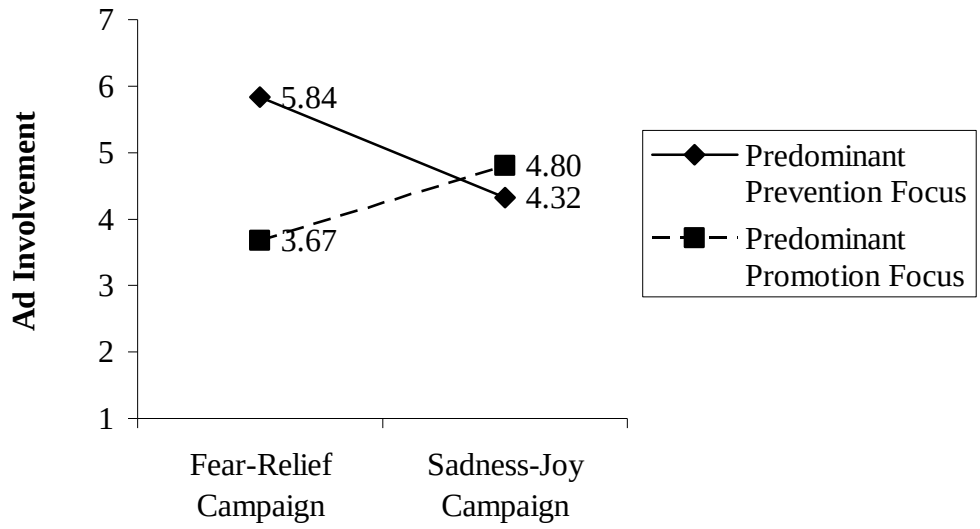
Note: Mean values of a three-item, seven-point semantic differential scale; higher scores indicate a more favorable Aad.

FIGURE 2
Interaction Effect: Emotional Tone × Chronic Self-Regulatory Focus on Overall Behavioral Intention to Quit Smoking



Note: Mean values of a three-item, seven-point Likert scale; higher scores indicate a more favorable overall behavioral intention.

FIGURE 3
Interaction Effect: Emotional Tone × Chronic Self-Regulatory Focus on Ad Involvement.



Note: Mean values of a four-item, seven-point Likert scale; higher scores indicate higher involvement in the advertisement.