

Ad Framing Effects For Consumption Products: An Affect Priming Process

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ABSTRACT

This research examines why positively framed messages work more effectively than negatively framed messages in product advertising by establishing an affect priming process model. Findings from Experiment 1 showed that positively framed ad messages evoked higher levels of positive affect and lower levels of negative affect than did negatively framed ad messages. Accordingly, positively framed ad messages generated more favorable ratings on ad believability, ad liking, and brand attitudes. Most importantly, this research demonstrated the process by which frame-evoked affect exerted influence on brand attitudes via its impacts on priming affect-congruent cognitive responses. Experiment 1 also found that positively framed ads encouraged participants to be attentive to and elaborate on messages more so than negatively framed ads. Findings from Experiment 2 further showed that ad framing effects were moderated by the type of product attributes being featured. © 2008 Wiley Periodicals, Inc.

INTRODUCTION

In advertising literature, ad framing mainly concerns the presentation of positive outcomes or negative consequences (Homer & Yoon, 1992; Smith, 1996; Zhang & Buda, 1999). A positively framed ad message focuses on positive benefits resulting from the purchase of a product (Smith, 1996).

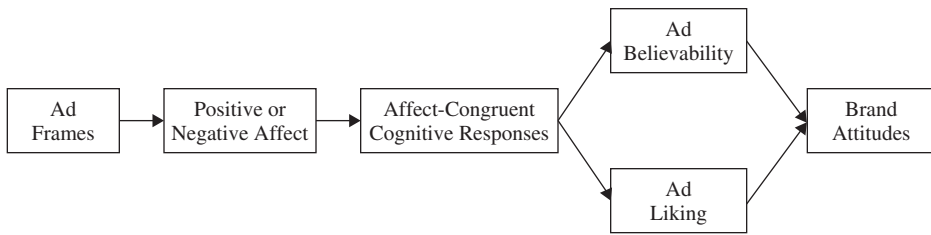


Figure 1. The proposed affect priming model for ad framing effects.

A negatively framed ad message concerns the unpleasant consequences derived from not purchasing a product (Homer & Yoon, 1992; Smith, 1996). Advertising research usually shows that positively framed ad messages are more effective, which is different from the tradition of framing literature inspired by Kahneman and Tversky's (1979) prospect theory (see also Tversky & Kahneman, 1981). This theory proposes that preference for an option depends on how the option is framed. Tversky and Kahneman (1981) assert that one reason why negatively framed message appeals are more effective is that people react more strongly to potential losses than to potential gains because the displeasure of losing is perceived to be more consequential than the pleasure of gaining. However, prospect theory usually concerns a decision process that involves two options that are associated with different levels of risk, which may not well describe most product evaluation behaviors (Braun, Gaeth, & Levin, 1997). Due to this difference, past discussions regarding the possible underlying mechanism of framing effects, such as changes in beliefs about the probability of desirable or undesirable outcomes or changes in the reference point (see Salovey, Schneider, & Apanovitch, 2002, for discussions) are difficult to generalize to the product advertising literature. A different theoretical framework is needed to elucidate the mechanism through which positive and negative ad frames work for a consumption product.

This research develops and tests a process model (see Figure 1). In this model, affect¹ evoked by positive and negative ad frames encourages generation of affect-congruent cognitive responses, which further bias how

¹ There is little agreement among researchers regarding the definitions of affect, emotion, and mood (Forgas, 1995). Some researchers use these terms interchangeably (e.g., Bower & Forgas, 2000). Affect, however, is used as a general term that refers to both emotions and moods (Petty, Gleicher, & Baker, 1991; Forgas, 1995; Bower & Forgas, 2000). According to Bower and Forgas' (2000, see also Forgas, 1995) discussion, emotions are intense, short-lived and have an identifiable cause. Moods, on the other hand, are subtle, diffuse and tend to be non-specific. Nevertheless, Bower and Forgas (2000) state, "[d]espite these differences, a sharp distinction between a mood and an emotion is difficult to draw because a frequent cause of a mood is the persisting after-effects of a strongly aroused emotion" (p. 89). Bower and Forgas (2000) reason that because moods are more enduring and less specific than emotions, most research exploring the interaction between affect and cognition focuses more on the impacts of moods than emotions. They further emphasize that this does not mean that the cognitive consequences of emotions are not of considerable interest. Indeed, the present study suggests that, in developing advertising campaigns, it may be easier to evoke ad perceivers' emotions by manipulating ad content than evoke their moods by selecting appropriate programs or editorial content. Understanding the impact of ad-evoked emotion, therefore, is relatively more important. In this research, the focus is on ad-evoked emotions and will be referred to as ad-evoked affect.

the ads and the advertised brands are evaluated. The basic assumption behind the proposed model is that different valences of affect will be evoked when processing positively framed versus negatively framed messages. The different valence of affect further leads to affect priming, rendering available affect-congruent cognitive responses and biasing, in an affect-congruent manner, ad perceivers' ratings of an ad message on degrees of liking and believability, as well as their evaluations of the advertised product. Additionally, drawing upon Wegener and Petty's (1994, see also Wegener, Petty, & Smith, 1995) hedonic contingency hypothesis and Bohner and Weinerth's (2001) affect interpretation hypothesis, it is proposed that, to the extent ad messages evoke higher levels of positive affect, more message elaboration is likely.

Finally, this research argues that ad framing may work in divergent patterns when psychological versus functional product attributes are framed. Adaval (2001) has demonstrated that affect-evoked persuasion effects emerge when consumers base their product evaluations on hedonic criteria, but not when they base product evaluations on utilitarian criteria. Extending the argument a step further, it is proposed that the affect priming effects on ad and brand judgments are more likely to emerge when featured product attributes are psychological rather than functional.

THE UNDERLYING MECHANISM OF AD FRAMING EFFECTS

It is well documented in advertising literature that positively framed ad messages are more persuasive than negatively framed ad messages. For example, Smith (1996) demonstrates a significant main effect of ad frames on evaluations of ad messages for a video camera, with positive frames generating more favorable responses than negative frames. Chang's (2005) findings also demonstrate that positively framed ads generate more favorable ad attitudes than negatively framed ads.

In light of the differences between findings documented by ad framing research and findings from literature concerning risky behaviors, advertising researchers have proposed new mechanisms to explain why positive ad frames are more effective than negative ad frames (e.g., Levin, 1987; Smith, 1996; Zhang & Buda, 1999). For example, Levin (1987) argues that product messages presented in positive frames as opposed to negative frames generate more favorable associations with the advertised product, which further mediate participants' responses to the product. Smith (1996) applies the attitudinal hypothesis to argue that favorable affect evoked by ad messages may determine participants' attitudes toward the ad and the brand. Nevertheless, Smith's study does not directly test whether positively framed and negatively framed ad messages generate different affect, nor does he establish the mediational process via which the evoked affect influences brand attitudes. In other words, evidence bearing on these proposed mechanisms is still absent.

Past literature seems to suggest that an affect-based process may be able to explain ad framing effects for consumption products. In a similar vein, in reviewing framing research for prevention and early detection health behaviors, Salovey, Schneider, and Apanovitch (2002) propose that anticipated affect mediates the effects of framed messages on behavior adoption. However, the affect-based process has not been tested in product advertising research. Experiment 1 thus tests whether the differential effects of positively framed and negatively framed ad messages are mainly caused by the different affect evoked by ad frames. It is important then to first establish that positive messages elicit more positive and less negative affect than negative messages.

H1: Positively framed ad messages will evoke more positive affect (H1a) and less negative affect (H1b) than will negatively framed ad messages.

What are the consequences of affect evoked by different ad frames? Affect renders congruent information available and thus encourages affect-congruent associations (Forgas, 1994; Forgas, Bower, & Moylan, 1990). The process via which affect-congruent memories and associations are activated can be generally referred to as affect priming (Bower & Forgas, 2000; Forgas, 1992). The fundamental assumption of the affect priming process is that representations of information of the same valence are linked together and will be easily activated by the corresponding affect. This is especially true when the affect is causally associated with the information (e.g., Bower & Forgas, 2000; Eich, 1995).

Affect can be induced by the target itself (integral affect) or by the context (incidental affect) (e.g., Bodenhausen, 1993; Wilder & Simon, 1996). The former is more likely to be emotion, that is, more intense and target-specific; the latter is more likely to be mood, that is, more enduring and nonspecific (Sedikides, 1995). Unfortunately, most affect priming research concerns itself with induced affect unrelated to the target (such as program-induced affect) rather than affect related to the target (such as ad-induced affect), which is the focus of this research. Working with the assumption that representations of information of the same affect, emotion, or mood are linked together, findings regarding affect priming triggered by contextual materials can be extrapolated to understand the affect priming process activated by advertising itself. As Clore, Schwarz, and Conway (1994) assert: "Judgments should be more consistent with current mood when mood is induced by a technique that itself increases the accessibility of mood-congruent material that is relevant to the judgment at hand" (p. 383).

In advertising research, affect priming effects on cognitive responses in processing advertisements have only been demonstrated in situations where the affect is triggered by the program context, not by the ad itself (Goldberg & Gorn, 1987; Mathur & Chattopadhyay, 1991). For example, happy program contexts generate more positive cognitive ad responses

than sad program contexts (Goldberg & Gorn, 1987; Mathur & Chattopadhyay, 1991). Extending past research, Experiment 1 argues that if positively framed messages evoke positive affect and negatively framed messages evoke negative affect, then more positive cognitive responses in comparison to negative cognitive responses (referred to here as valenced cognitive responses) will be generated in the former condition as opposed to the latter condition.

H2: Positively framed ad messages will generate higher levels of valenced cognitive responses regarding the ad and the product than will negatively framed ad messages.

Because judgments are primarily based on what information is available in an individual's mind (e.g., Tversky & Kahneman, 1973), affect priming can result in congruent judgment biases. For example, past research shows that affect-primed congruent associations influence self-judgments (Forgas, Bower, & Krantz, 1984; Sedikides, 1995), impressions about people (Forgas, 1991; Forgas & Bower, 1987; Mayer et al., 1992) and evaluations of products (Petty, Gleicher, & Baker, 1991). Indeed, Forgas (2001) argues that affect priming is the dominant mechanism for affect-congruent judgment effects. Similarly, in communication research, news-evoked affect has been shown to increase the accessibility of certain information and to bias message perceivers' policy preferences (Nabi, 2003). Experiment 1 thus tests whether affect-primed cognitive responses will lead to biased judgments of ad believability, ad liking², and attitudes toward the product³.

H3: Positively framed ad messages will generate higher levels of perceived believability (H3a), ad liking (H3b), and positive brand attitudes (H3c) than will negatively framed ad messages.

This research will further test the specific process via which the affect priming mechanism leads to judgment biases. First, it is argued that ad frames influence affect valence, which in turn produces affect-congruent cognitive responses. Additionally, it is important to note that in advertising literature the mediating role of ad responses between ad appeals and brand

² Both ad liking and ad believability seem to be important and distinct responses to advertising. For example, people usually do not like comparative advertising (Grewal et al., 1997). However, when a comparative advertisement is believable, it can influence brand attitudes and purchase intentions regardless of whether consumers like the ad (Gotlieb & Sarel, 1991; Swinyard, 1981). In a similar vein, consumers may not like ads that suggest what they will lose if they do not purchase a product. However, if the ad is believable, it may still affect brand attitudes. Therefore, it seems to be important to examine both ad liking and ad believability.

³ Affect is the emotional response induced by advertising. Ad liking is the evaluative response to advertising, whereas brand attitudes are evaluative responses to the advertised products. In advertising research, these variables are well regarded as different constructs (e.g., Holbrook & Batra, 1987; Burke & Edell, 1989; Machleit & Wilson, 1988).

attitudes has been well established (MacKenzie, Lutz, & Belch, 1986; Mitchell & Olson, 1981). Therefore, it is proposed that affect-congruent cognitive responses will indirectly influence brand attitudes via their impacts on ad responses.

H4a: Ad framing will impact participants' valenced cognitive responses via its influence on ad-evoked affect.

H4b: Participants' valenced cognitive responses will impact brand attitudes via their influences on ad liking and ad believability.

FRAME-EVOKED AFFECT AND MESSAGE ELABORATION

Past literature suggests that when individuals feel positive they believe that the environment is safe. Thus they are less likely to engage in message elaboration and will rely on peripheral cues for judgments (e.g., Schwarz & Bless, 1991). However, Wegener, Petty, and Smith (1995) reason that the studies that document processing deficits for positive affect employ messages on depressing topics. Thus they may not well explain conditions in which hedonic messages are involved. Wegener and Petty's (1994; see also Wegener et al., 1995) hedonic contingency hypothesis proposes that positive affect encourages message processing if the message content is uplifting, whereas positive affect leads to processing deficits only when the message content is depressing. Avoiding elaboration on such message content makes the message recipients feel better. Given that product messages concerning possible benefits are hedonic in nature, message elaboration and integration is likely to be encouraged when positive affect is evoked.

In a similar vein, Martin et al. (1993) demonstrate that happy participants working on a cognitive task take their positive affect as evidence that they are enjoying the task and persist longer on the job than do sad participants, who take their negative affect as evidence that they are not enjoying the task. Additionally, extending Wegener and Petty's (1994) and Martin et al.'s (1993) work, Bohner and Weinerth (2001) propose an affect interpretation hypothesis, which argues that negative affect can either increase or decrease message elaboration, depending on the context. When message recipients are exposed to a persuasive message, they assess the legitimacy of the message. If they perceive the message to be illegitimate, then any negative affect is interpreted as a response to the illegitimate persuasive attempt and will result in a reduction in message elaboration. It appears that negative affect that is triggered by messages may either serve as a signal to ad perceivers that they are not enjoying the task (Martin et al., 1993) or as a response to the illegitimacy of the message (Bohner & Weinerth, 2001). Both will lead to decreased attention or message elaboration.

Consistent with these hypotheses, in advertising literature, Mathur and Chattopadhyay (1991) show that happy program contexts lead to more enhanced ad message elaboration than do sad program contexts. Aylesworth and MacKenzie's (1998) findings suggest that happy programs encourage higher levels of systematic processing than do sad programs. Even though these studies focus on context-induced affect, the same reasoning may be applied to understand the effects of ad-evoked affect on ad elaboration. Experiment 1 argues that relatively more attention will be allocated to positively framed ad messages than to negatively framed ad messages. Additionally, more cognitive responses regarding the ads or the advertised products will be generated for positively framed ad messages as opposed to negatively framed ad messages.

H5: Positively framed ad messages will generate higher levels of message attention (H5a) and cognitive responses (H5b) than will negatively framed ad messages.

EXPERIMENT 1

Research Design

Experiment 1 was a three-factor between-subject design. The first factor was ad frame with two levels: positive and negative. The second factor concerned two types of psychological outcomes: increasing self-esteem and social recognition. The final factor pertained to the featured attributes: comfort and style. Including the two outcome conditions and the two product attribute conditions was meant to increase generalizability of the findings and to reduce any idiosyncratic effects from featuring one particular type of psychological outcome or one particular product attribute (Jackson & Jacobs, 1983). Specific hypotheses were not proposed for these two factors because no effects were expected. Indeed, no significant effects emerged for either the outcomes or the attributes on any of the dependent measures; therefore, responses from participants exposed to ads featuring different outcomes and attributes were collapsed for all subsequent analyses.

Participants

One hundred and sixty participants were recruited for Experiment 1. Participants were from the campus of a university in Taiwan and were paid for their participation. Fifty percent of the participants were male. Twenty participants were randomly assigned to each of the eight experimental conditions. The translation and translation-back procedure suggested by Brislin (1987) was adopted to create the Chinese version of each measure.

Stimuli Development

A pretest ($N = 20$) was used to select a product that college students had both purchased and owned in the past year. Sneakers were chosen to be the advertised product. In addition, all the participants in the main experiment had purchased sneakers before. To reduce influence from participants' existing attitudes, a fictitious brand name was used in this experiment. Stimuli ads were created by professionals working at an advertising agency. To reduce confounding effects from using different visuals for positively framed and negatively framed messages, similar visuals were used for ads with different frames. The stimuli ads were inserted after one filler ad to improve external validity.

Procedures

Folders representing each of the experiment's conditions were created. Participants were randomly given a folder containing ad stimuli. They were then instructed to read their folders' contents. After reading the ads, they rated their affect and provided their thoughts about the ads and the products. Then they rated scales assessing ad believability, ad liking and product attitudes. They also rated scales for manipulation checks.

Independent Variables

Ad Frames: Positive and Negative. Positively framed ads suggested that owning a good pair of sneakers such as the one in the advertisement would provide people with positive psychological outcomes (high self-esteem or more social recognition). Negatively framed ads suggested that not owning a good pair of sneakers such as the one in the advertisement would lead to negative psychological consequences (low self-esteem or less social recognition). No specific information about product attributes was included. Participants rated two questions, using 7-point Likert scales for manipulation checks: "The ad addresses in positive terms what positive outcome you will experience if you purchase the product" and "The ad addresses in negative terms what negative consequence you will experience if you don't have the product." Results indicated that participants felt the message conveyed more positive information when it was positively framed than when it was negatively framed, $F(1, 158) = 18.98$, $p < .01$ ($M_{\text{positive}} = 5.11$, $SD = 1.21$, $M_{\text{negative}} = 4.09$, $SD = 1.72$). They also thought that the message delivered more negative information when it was negatively framed than when it was positively framed, $F(1, 158) = 43.46$, $p < .01$ ($M_{\text{positive}} = 2.56$, $SD = 1.32$, $M_{\text{negative}} = 4.11$, $SD = 1.64$). Therefore, the manipulation was satisfactory.

Covariate: Product Involvement. Existing product involvement has been shown to influence consumers' responses to advertising (e.g., Celsi & Olson, 1988; Petty, Cacioppo, & Schumann, 1983); therefore, it was

included as a covariate in all models. Participants rated their existing involvement with sneakers on a 10-item, 7-point Likert scale. The items were adopted from Laurent and Kapferer's (1985) Involvement Profile scale. Cronbach's alpha for the whole scale was .75. The average of participant's ratings on the scale items was included as a covariate.

Dependent Measures

Ad-Evoked Affect. Participants rated their affect on a 7-point, 20-item scale. The items were selected from Edell and Burke (1987). Factor analysis with varimax rotation generated three factors with eigenvalues larger than one. The first factor was labeled "positive affect." It included the following eight items: "carefree," "cheerful," "delighted," "happy," "interested," "pleased," "satisfied," and "warmhearted." The second factor was labeled "negative affect." It consisted of six items: "annoyed," "bored," "depressed," "disinterested," "sad," and "skeptical." The third factor, which was termed "calmness," included three items: "dull," "calm," and "contemplative." Three items had split loadings and were dropped from the analyses. Cronbach's alphas for positive affect and negative affect were .90 and .87, respectively. However, Cronbach's alpha for calmness was only .56, which was not satisfactory. In addition, effects on calmness were not hypothesized. Therefore, only the positive and negative affect factors were included in the analyses and were analyzed as two subscales. Items corresponding to the two factors were averaged for testing the hypotheses.

Cognitive Responses. Participants were asked to provide their thoughts about the ads and the advertised products. Two independent coders who were not aware of the research purposes coded participants' responses. Cognitive responses were coded as ad-related (e.g., "the ad is informative"), product-related (e.g., "the sneakers seem to be nice"), or irrelevant cognitive responses (e.g., "I need to hurry to a meeting after the study"). Valence of the cognitive responses was also coded, including positive (e.g., "I enjoyed reading the ad copy"), neutral (e.g., "I don't remember seeing the ad before"), and negative (e.g., "the sneakers do not look as cool as Nike shoes"). The coding units were "sentences." Coding procedures recommended by Kolbe and Burnett (1991) were employed to improve the objectivity of the coding. First, the two coders coded one third of the responses independently for inter-coder reliability checking. Cohen's kappa (Cohen, 1960) was employed to assess inter-coder reliability. The Cohen's kappas for all coding categories ranged from .73 to .79, which indicate satisfactory reliability. The items that the coders disagreed on were resolved through discussions. Then the two coders split up and coded the rest of the responses.

The average number of ad-related thoughts was 3.83. The average number of product-related thoughts was 1.92. The average number of irrelevant thoughts was .96. The total numbers of positive, negative, and

neutral thoughts were 2.17, 3.52, and 1.02. Based on the coding results, each participant's total number of cognitive responses was calculated. In addition, adopting an approach similar to one used by Aaker and Sengupta (2000), the index of valenced thoughts (VT) was created by subtracting the total number of negative cognitive responses regarding the ad or the product from the total number of positive cognitive responses related to the ad or the product. Neutral items were not included. Therefore, a positive number indicated that more positive cognitive responses were generated, whereas a negative number suggested that more negative cognitive responses were evoked.

Ad Liking. A 5-item, 7-point semantic-differential scale was used to measure how much participants liked the ads. The items were adopted from Chang (2005). The five items were “interesting–not interesting,” “good–bad,” “likable–not likable,” “not irritating–irritating,” and “pleasant–not pleasant.” Cronbach's alpha for ad liking was .91. Participants' ratings on all scale items were averaged for the analyses.

Ad Believability. A 4-item, 7-point semantic-differential scale was used to measure participants' perceptions of ad believability. The four items, adopted from Beltramini's (1982) advertising believability scale, were “unbelievable–believable,” “not convincing–convincing,” “unreasonable–reasonable,” and “not authentic–authentic.” Cronbach's alpha for ad believability was .85. Participants' responses to the four items were averaged for the analyses.

Brand Attitudes. Brand attitudes were measured with a 4-item, 7-point semantic-differential scale. The items were adopted from Mitchell and Olson (1981) and Holbrook and Batra (1987). They were “good–bad,” “like–dislike,” “pleasant–unpleasant,” and “positive–negative.” Cronbach's alpha for this scale was .93. Participants' responses to the four items were averaged for the analyses.

Attention to Ad Messages. Participants rated how attentive they were to the advertising messages. The five items on the 7-point scale were adopted from Andrews (1988). They were “concentrated/did not concentrate,” “engrossed/not engrossed,” “focused/not focused,” “involved/not involved,” and “engaged/not engaged.” Cronbach's alpha for this scale was .93. Participants' responses to the five items were averaged for the analyses.

Results and Analyses

Because all of the dependent variables were significantly correlated (Pearson's r s ranged from $-.58$ to $.81$, all $ps < .01$), a MANCOVA was first conducted on positive affect, negative affect, valenced cognitive

responses, ad believability, ad liking, and brand attitudes. Product involvement was analyzed as a covariate. Results showed a significant main effect of ad frames, $F = 4.37, p = .01$. Therefore, ANCOVAs were conducted to further test the hypotheses.

Hypothesis 1a suggests a main effect of ad frames on positive affect. As expected, results of the ANCOVA indicated that positively framed ad messages elicited higher ratings of positive affect than did negatively framed ad messages, $F(1, 157) = 23.61, p = .01$ ($M_{\text{positive}} = 4.41, SD = 0.99, M_{\text{negative}} = 3.70, SD = 1.03$). Conversely, Hypothesis 1b proposes a main effect of ad frames on negative affect. Results of the ANCOVA showed that positively framed ad messages generated lower ratings of negative affect than did negatively framed ad messages, $F(1, 157) = 8.54, p = .01$ ($M_{\text{positive}} = 2.40, SD = 1.05, M_{\text{negative}} = 2.89, SD = 1.08$). The results provided support for Hypotheses 1a and 1b.

Hypothesis 2 argues that positively framed ad messages will generate higher levels of VT regarding the ad and the product than will negatively framed ad messages. Results of the ANCOVA indicated that positively framed ad messages elicited higher levels of VT than did negatively framed ad messages, $F(1, 157) = 4.07, p = .01$ ($M_{\text{positive}} = 0.10, SD = 2.25, M_{\text{negative}} = -0.60, SD = 2.35$). As expected, the mean for positively framed ad messages was positive, which indicated that positive cognitive responses dominated negative cognitive responses, whereas the mean for negatively framed ad messages was negative, which suggests that negative cognitive responses outweighed positive cognitive responses. Therefore, Hypothesis 2 was supported.

Hypothesis 3 suggests a main effect of ad frames on perceived ad believability (H3a), ad liking (H3b), and brand attitudes (H3c). As expected, results of the ANCOVA demonstrated that positively framed ad messages generated higher levels of perceived believability, $F(1, 157) = 5.01, p = .03$ ($M_{\text{positive}} = 3.61, SD = 0.99, M_{\text{negative}} = 3.24, SD = 1.19$); higher ratings of ad liking, $F(1, 157) = 11.13, p = .01$ ($M_{\text{positive}} = 4.49, SD = 1.13, M_{\text{negative}} = 3.94, SD = 1.08$); and more favorable attitudes, $F(1, 157) = 3.92, p = .05$ ($M_{\text{positive}} = 4.27, SD = 1.07, M_{\text{negative}} = 3.98, SD = 1.21$) than did negatively framed ad messages. Therefore, results confirmed Hypotheses 3a, 3b, and 3c.

Hypothesis 4a proposes that different ad frames indirectly impact participants' levels of VT via their direct influences on participants' affect. Adopting Baron and Kenny's approach (1986), regression analyses were conducted to test this mediation process. According to Baron and Kenny (1986), when a variable meets the following conditions, it functions as a mediator: (1) The independent variable accounts for significant variation in the presumed mediator; (2) the presumed mediator accounts for significant variation in the dependent variable; and (3) the relationship between the independent and the dependent variable is no longer significant once the variance in the dependent variable accounted for by the mediator is partialled out (p. 1176). For all analyses,

positive frames were coded “1” and negative frames were coded “0.” First, ad frame had a significant impact on positive affect ($\beta = .36, t = 4.86, p < .01$) and on negative affect ($\beta = -.23, t = 2.97, p < .01$). Second, ad frame had a significant impact on levels of VT ($\beta = .16, t = 2.02, p = .05$). Third, positive affect and negative affect accounted for significant variance of VT (positive affect, $\beta = .26, t = 2.93, p < .01$; negative affect, $\beta = -.19, t = -2.14, p = .03$). Finally, when ad frame, positive affect, and negative affect were all put in the equation predicting VT, the impact of ad frame was not significant, whereas the impacts of positive affect and negative affect remained significant (ad frame, $\beta = .03, t = .33, p = .74$; positive affect, $\beta = .25, t = 2.59, p < .01$; negative affect, $\beta = -.19, t = -2.13, p = .04$). The results supported Hypothesis 4a.

Hypothesis 4b proposes that participants’ VT indirectly impact brand attitudes via their influences on ad liking and ad believability. Results of regression analyses showed first that VT had a significant impact on ad liking ($\beta = .46, t = 6.48, p < .01$) and on ad believability ($\beta = .54, t = 8.00, p < .01$). Second, VT had a significant impact on brand attitudes ($\beta = .52, t = 7.69, p < .01$). Third, ad liking and ad believability accounted for significant variance of brand attitudes (ad liking, $\beta = .56, t = 9.67, p < .01$; ad believability, $\beta = .34, t = 5.90, p < .01$). Finally, when VT, ad liking, and ad believability were all included in the equation predicting brand attitudes, the impact of VT was not significant, whereas the impacts of ad liking and ad believability were significant (VT, $\beta = .19, t = 1.77, p = .08$; ad liking, $\beta = .54, t = 9.21, p < .01$; ad believability, $\beta = .31, t = 5.01, p < .01$). It is important to note that Variance Inflation Factors (VIF) for all predictors were much less than 10, which indicates that multicollinearity is likely not a problem among these variables (VT, VIF = 1.43, tolerance = .70; ad liking, VIF = 1.76, tolerance = .57; ad believability, VIF = 1.90, tolerance = .53). Therefore, Hypothesis 4b was supported.

Hypothesis 5 argues a main effect of ad frames on levels of message attention (H5a) and levels of message elaboration (H5b). As expected, ANCOVA showed that positively framed ad messages drew significantly higher levels of attention, $F(1, 157) = 3.82, p = .05$ ($M_{\text{positive}} = 4.74, SD = 1.27, M_{\text{negative}} = 4.39, SD = 1.27$), and encouraged participants to generate more cognitive responses, $F(1, 157) = 4.69, p = .03$ ($M_{\text{positive}} = 6.19, SD = 3.18, M_{\text{negative}} = 5.30, SD = 2.56$), than did negatively framed ad messages. Thus Hypotheses 5a and 5b were supported.

Discussion

Consistent with expectations, positively framed ad messages elicited higher levels of positive affect and lower levels of negative affect than did negatively framed ad messages. Most importantly, participants generated more favorable responses when processing ad messages that emphasized what positive outcomes they would experience when owning the product than when processing ad messages that suggested what negative consequences

they would incur from not purchasing the product. The specific affect priming process as the underlying mechanism of ad framing effects was also established, suggesting that ad frame-evoked affect primes affect-congruent cognitive responses and influences ad judgments, which further bias brand attitudes.

However, it is important to note that the product features specified in this experiment mainly concern psychological outcomes. Past studies seem to pay more attention to how ads are framed than to what kind of product attributes are framed. In advertising literature, it is generally agreed that products may be classified into two broad categories: transformational products and informational products (Rossiter, Percy, & Donovan, 1991). In parallel, product attributes featured in ads can be either psychological or functional. Given that Experiment 1 explored framing effects featuring psychological benefits or consequences, it seems important to explore whether the same pattern of framing effects may emerge when functional product attributes are featured in the ads.

Smith (1996) has argued that transformational products are purchased to enhance positive affect, whereas informational products are purchased to solve problems. Therefore, when transformational products are considered, consumers may be more oriented to the hedonic pleasures featured in the ad than they are when informational products are featured. Even though Smith's (1996) discussions mainly concern product-level differences, this research argues that similar reasoning can be applied to predict the different participant responses that will occur when either psychological attributes or functional attributes for the same product are featured.

Consumer behavior literature indicates that affect-based effects on product judgments are more likely to occur when considering hedonic criteria of products. For example, Adaval (2001) demonstrates that affect-confirmation effects emerge only when consumers base their product evaluations on hedonic criteria, criteria that pertain to affect, not when consumers develop their product evaluations based on utilitarian criteria, criteria that mainly concern product performance and are not directly linked to affective consequences. Adaval (2001) reasons that, in developing product evaluations concerning hedonic criteria, participants' affect is relevant for judgments, whereas in developing product evaluations concerning utilitarian criteria, their affect is not relevant for judgments.

In line with these arguments, experiment 2 proposes that affect priming effects are more likely to occur when featured product attributes are psychological than when featured product attributes are functional. Specifically, experiment 2 hypothesizes that when psychological attributes are featured, positively framed messages work better than negatively framed messages. In contrast, when functional attributes are emphasized, the advantage of using positively framed messages will disappear.

H6: When psychological attributes are featured, positively framed ad messages will generate more favorable ratings of ad believability

(H6a), more favorable ratings of ad liking (H6b), and more positive brand attitudes (H6c) than will negatively framed ad messages. However, when functional attributes are featured, positively framed ad messages will not evoke significantly different responses than negatively framed ad messages.

EXPERIMENT 2

Design

Experiment 2 was a two-factor between-participant design. The two manipulated factors were ad frame (two levels: positive and negative) and product attribute type (two levels: psychological and functional).

Participants and Procedures

One hundred and sixty participants were recruited to participate in Experiment 2. They were from the same campus as participants in the first experiment. They were paid for their participation. Equal numbers of male and female participants were recruited. Forty participants were randomly assigned to each experimental condition. Folders representing each of the experiment's conditions were created. Participants were randomly given a folder containing ad stimuli. After reading the ads, they rated scales for dependent variables and manipulation checks.

Stimuli Development

The stimuli were created by professionals working at an advertising agency. To justify the use of both psychological as well as functional attributes in promoting the target product, the target product should be able to fulfill both transformational and utilitarian functions. Sneakers, the target product in Experiment 1, were tested first to see whether they met the requirements. Results showed that sneakers were able to fulfill both utilitarian and transformational functions, $t(19) = 0.58$ $p = .57$ ($M_{\text{utilitarian}} = 4.20$, $M_{\text{transformational}} = 4.45$). Therefore, they were also used as the target product in Experiment 2.

For ads featuring psychological attributes, positive messages emphasized how much more self-confidence participants will show when they wear the sneakers, whereas negative messages suggested that not owning the sneakers would make participants feel gloomy and uneasy. For ads featuring functional attributes, positive ads emphasized how the specified product attributes can improve comfortable support for the feet and enhance performance in exercise, whereas negative messages suggested that users would not be able to enjoy the same levels of comfort and performance without owning the shoes. Results indicated that participants felt that the message conveyed more gain information when it was

positively framed than when it was negatively framed, $F(1, 158) = 7.79$, $p < .01$ ($M_{\text{positive}} = 4.42$, $SD = 1.06$, $M_{\text{negative}} = 3.86$, $SD = 1.41$). They also thought that the message delivered more loss information when it was negatively framed than when it was positively framed, $F(1, 158) = 9.08$, $p < .01$ ($M_{\text{positive}} = 4.31$, $SD = 1.21$, $M_{\text{negative}} = 3.73$, $SD = 1.20$). Therefore, the manipulation was satisfactory.

The attributes featured in the functional attribute ads were determined by a pretest. The pretest asked a sample of 20 participants to rank the most important attributes to consider when purchasing a pair of sneakers. Based on the results, four product attributes were selected, comfortable fit, lightweight, breathability, and cushioning. Another pretest determined that participants could differentiate between ads featuring psychological attributes and ads featuring functional attributes. Participants showed significantly different responses when they rated the degree to which the ads contained psychological attributes, $t = 2.86$, $p = .01$ ($M_{\text{psychological ad}} = 5.35$, $M_{\text{functional ad}} = 3.95$) and the degree to which the ads contained functional attributes, $t = 6.08$, $p = .01$ ($M_{\text{functional ad}} = 6.00$, $M_{\text{psychological ad}} = 3.25$).

Dependent Variables

The same scales for ad liking, ad believability and brand attitude used in Experiment 1 were employed here. Cronbach's alphas were .88, .79, and .90, respectively.

Results and Analyses

Hypothesis 6a suggests a simple effect of ad frame on ad believability for psychological attributes but not for functional attributes. Even though the interaction between ad frame and product attribute type was not significant, $F(1, 156) = 1.99$, $p = .16$, given that the hypothesis was established *a priori*, lower level comparisons were justified (Winer, Brown, & Michels, 1991). Results of simple comparisons indicated that when psychological attributes were featured, positively framed ad messages generated higher ad believability ratings than did negatively framed ad messages, $F(1, 78) = 7.42$, $p = .01$ ($M_{\text{positive}} = 3.83$, $SD = 0.88$, $M_{\text{negative}} = 3.19$, $SD = 1.19$). In contrast, when functional attributes were featured, ad framing did not influence ad believability ratings, $F(1, 78) = 0.75$, $p = .39$ ($M_{\text{positive}} = 3.83$, $SD = 1.05$, $M_{\text{negative}} = 3.64$, $SD = 0.88$). Therefore, results of simple effects tests provided support for Hypothesis 6a.

Hypothesis 6b suggests a simple effect of ad frame on ad liking for psychological attributes, but not for functional attributes. The interaction between ad frame and product attribute type did not reach the significance level, $F(1, 156) = 0.68$, $p = .41$. Yet, as expected, simple comparisons indicated that when psychological attributes were featured, positively framed ad messages generated higher levels of ad liking than

did negatively framed ad messages, $F(1, 78) = 5.94, p = .02$ ($M_{\text{positive}} = 4.40, SD = 1.04, M_{\text{negative}} = 3.81, SD = 1.10$). In contrast, when functional attributes were featured, ad framing had no effect on ad liking, $F(1, 78) = 1.99, p = .16$ ($M_{\text{positive}} = 4.24, SD = 0.97, M_{\text{negative}} = 3.92, SD = 1.02$). Hypothesis 6b thus was only supported by simple effects tests.

Hypothesis 6c proposes a simple effect of ad frame on brand attitudes for psychological attributes, but not for functional attributes. ANOVA showed that the interaction between ad frame and attribute type was not significant, $F(1, 156) = 0.01, p = .94$. Contrary to expectations, when responses to ads featuring psychological attributes were considered, positively framed ad messages did not generate more positive brand attitudes than negatively framed ad messages, $F(1, 78) = 2.27, p = .14$ ($M_{\text{positive}} = 4.24, SD = 1.04, M_{\text{negative}} = 3.84, SD = 1.32$). However, as expected, when functional attributes were featured, there was also no simple main effect of ad framing on brand attitudes, $F(1, 78) = 2.90, p = .09$ ($M_{\text{positive}} = 4.36, SD = 1.02, M_{\text{negative}} = 3.98, SD = 0.95$). Therefore, Hypothesis 6c was not supported. However, the overall main effect of ad framing on brand attitudes was significant, $F(1, 156) = 5.05, p = .03$.

Discussion

Findings of Experiment 2 indicate that ad frames generate significantly different effects on ad believability and ad liking only for ads concerning psychological attributes, not for ads featuring functional attributes. It appears that affect-driven priming effects on ad responses are more likely to emerge when psychological attributes are featured than when functional attributes are presented. However, it is worth noting that when brand attitudes, probably the most important variable for marketers, are examined, ad frames exert only an overall main effect, with positive messages generating significantly more favorable brand attitudes than negative messages. This seems to suggest that when promoting a product, either on its psychological attributes or its functional attributes, going positive should be a safer strategy than featuring possible losses.

GENERAL DISCUSSION

This research has tried to establish the underlying process that leads to the superior effects of positively framed ad messages over negatively framed ad messages in advertising viewing contexts. The basic argument is that the same persuasion tactics may work through different mechanisms when individuals approach the issues with different motivations. In an advertising viewing context, this research establishes an affect priming process triggered by positive and negative frames via which ad responses and brand attitudes are biased. As Pham (1998) indicates, the effect of affect on consumption behavior intentions only emerges

when participants have a consummatory motive, not when participants have an instrumental motive. The reason is that affect is believed to be more relevant for judgments in the former context than in the latter context. Entertainment seeking is generally believed to be one of the main reasons why individuals read magazines or watch television (Blumer & Katz, 1974). If seeking entertainment is indeed one of the primary conditions under which audiences are exposed to ads, ad-evoked affect should be relevant for ad judgments. Therefore, understanding participants' responses to ad messages framed in positive and negative terms from the perspective of ad-evoked affect seems to be a reasonable approach.

Nevertheless, it is important to note that the affect may not be triggered mainly by positive or negative outcomes featured in the ad. It is likely that it is more cumbersome to conceive of how not owning a pair of shoes may cause a loss of one's self-confidence than how owning a good pair of shoes may enhance self-confidence, and the difficulty of comprehension may lead to more negative affect or lower degrees of elaboration. Moreover, it is interesting to note that positively framed ads in this paper focus on use or owning, whereas negatively framed ads focus on nonuse or nonowning. It is possible that when positively framed ads focus on nonuse or nonowning (e.g., "Be popular and don't smoke") and negatively framed ads focus on use or owning (e.g., "Smoking will make you unpopular"), they may work differently. Future researchers should be able to take these factors into account when manipulating their messages.

There are alternative theories that are able to explain the influence of affect on judgments. For example, Forgas (2001) proposes that affect congruence effects on judgments may result from an affect-as-information heuristic mode of processing. However, analyses of participants' cognitive responses clearly supported the affect priming process as a more appropriate explanation. Positive and negative ad frames trigger affect of different valences, which encourages valence-congruent elaboration and further influences ad and brand attitudes. Therefore, from this study's results, one can argue that the valence of ad frames do not simply serve as input for ad and brand judgments, involving very little elaborative processing. The affect priming process suggests that affect precedes cognition. Yet, it is important to note that appraisal theory argues that cognitions are antecedents of emotion (Lazarus, 1991). According to Lazarus (1991), emotions are evoked by an assessment of the significance of what is happening in the environment for the implications of personal well-being. In other words, when individuals are exposed to messages that are framed in positive and negative terms, they may generate an appraisal of why the message is framed in such terms before they respond to the message with appropriate emotions. To test the causal order from cognition to affect, further regression analyses were conducted in this study. Results of the analyses discounted this alternative explanation.

Participants in the positive frame and negative frame conditions differed in the extent of their message processing. Positively framed messages

generated relatively higher levels of message attention, as well as a greater amount of cognitive responses. Past research demonstrates that positive moods may reduce an individual's capacity (Mackie & Worth, 1989) or motivation (Schwarz, 1990) to engage in message elaboration. Other research provides contradictory evidence, suggesting that a positive mood generates superior product learning (Lee & Sternthal, 1999) and higher levels of ad elaboration (e.g., Mathur & Chattopadhyay, 1991). This research suggests that the effect of affect on message elaboration is determined by the characteristics of the messages. Within the hedonic contingency hypothesis, Experiment 1 demonstrates that positive affect encourages message processing when ads suggest positive consequences and are pleasant in nature. In addition, within Bohner and Weinerth's (2001) affect interpretation hypothesis, Experiment 1 shows that negative affect reduces participants' motivations to elaborate on messages when the ads suggest negative outcomes, which may be perceived to be of stronger manipulative intent and thus illegitimate.

Moreover, not only does the valence of ad frames matter, so does the content being framed. Evidence from Experiment 2 shows that ad framing effects on ad evaluations are moderated by the type of attributes being featured. Affect priming effects only emerge when featured attributes are psychological, not when featured attributes are functional. This is consistent with past literature indicating that affective means of persuasion are more effective for affect-based attitudes than cognition-based attitudes (Edwards, 1990). Nevertheless, ad framing effects on brand attitudes seem to be robust regardless of the type of attributes the ad features.

In general, findings of these experiments are particularly interesting for marketers in two ways. First, marketers should not abandon positive framing in favor of negative framing, and second, when the featured attributes are psychological, a positive frame will generally be more effective than a negative frame. Advertisers may also be concerned about the implications of the findings for specific product categories. Unfortunately, the experiments only tested sneakers, a relatively high-involving product. The assumption is that if participants prefer positively framed product messages for sneakers, they should prefer positively framed product information for lower involving products, which generally involve less cognition and for which affect priming effects may be more likely to emerge. Other than this difference, it is important to note that products also vary in terms of the different kinds of risks that they may involve, such as performance risks, social risks, psychological risks, or financial risks. It is likely that products that involve high performance risks should be framed differently from products that concern psychological risks. All in all, the degree of risk a product involves, as well as the nature of the risks a product incurs, may moderate the effectiveness of message framing. More studies are warranted to provide a better understanding about the role that the perceived risks of products play in moderating the persuasiveness of message framing.

Finally, findings of these experiments should be considered in light of certain limitations. First, the way in which functional and psychological attributes were framed in positive and negative terms might have introduced unnecessary confounding influences. It is possible that the novelty of negatively framed ad messages may have influenced the way participants responded to the ads. More research is warranted to examine these possible impacts. Second, this research examines ad framing effects for a fictitious brand; therefore, caution should be used when trying to generalize findings to well-known brands. For existing or well-known brands, the affect priming effects may be reduced because existing attitudes may serve as important judgment inputs. Therefore, the possible influence of individuals' existing product preferences should be considered in this research paradigm. Third, the basic assumption of this research is that individuals expose themselves to media for entertainment purposes. It is likely that when other media use goals are involved, the same model may not hold. Therefore, future research can pursue this issue further. Fourth, to better manipulate ad frames without introducing unnecessary confounding influences of artistic executions, print ads were used in the two experiments. Visual cues in television spots, as opposed to in print ads, may elicit higher levels of affect and generate greater affect priming effects. It is important for future research to explore this possibility. Finally, in Study 1, negatively framed ads were rated near the midpoint in terms of the valence of information they conveyed and might be better characterized as neutral ads. However, this problem did not emerge in Study 2. Regardless of the limitations, findings of this study shed much light on current understanding of the unique affective and cognitive processes involved when advertising messages are framed in either positive or negative terms.

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