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Exploring the Effect of Different Emotions on Construal Levels and Consumer Evaluations of Advertising from a Certainty Appraisal Approach

Ohyoon Kwon

Assistant Professor, Department of Advertising & Public Relations, Keimyung University

This research investigates the role of emotion in the persuasion process by establishing a novel relationship between emotion and construal level. Built on cognitive appraisal theories, this research proposes that the certainty appraisal components of emotions exert a direct influence on an individual's representation of information at a high versus low construal level. The findings indicate that individuals primed to experience a specific emotional state strongly associated with uncertainty construe behaviors or events at a high level while those primed to experience an emotional state strongly linked to certainty characterize behavior or events at a low level (Study 1). Such a fit (vs. nonfit) between an individual's emotional state and the construal level at which product benefits in an advertising message are represented lead to a more favorable evaluation of the message and product. The findings of this research specifically suggest that individuals induced to feel happiness associated with certainty respond to ad messages described in terms of feasibility than desirability and that the opposite pattern would be found for those induced to feel fear associated with uncertainty. Accordingly, these outcomes occur because the certainty appraisal components of specific emotions significantly influence mental construal levels.

Key words : Emotion, Appraisal, Construal Level, Advertising, Certainty

† Corresponding Author : Ohyoon Kwon, Assistant Professor, Department of Advertising & Public Relations, ohyoon@kmu.ac.kr

Introduction

How does emotion come to influence a consumer's response to an advertising message showing different types of benefits? The majority of the research studies on the impact of emotions on advertising evaluation have been rooted in the valence-based framework contrasting the differential impacts of positive versus negative emotion. The findings within the valence-based framework suggest that different feelings of the same valence exert similar influences on cognitive processing and judgment (Mackie & Worth, 1989). However, this approach is not without criticism.

An increasing number of researchers have questioned the assumption that all positive and all negative emotions are equal and lead to similar effects on message processing and judgment (e.g., Babin et al., 1998; Bodenhausen et al., 1994; Chowdhry et al. 2015; DeSteno et al., 2000; Lerner & Keltner 2001; Raghunathan & Pham, 1999; Tiedens & Linton, 2001). The idea behind this research stream is that isolable emotions can be distinctively identifiable because individuals experience specific emotions based on their evaluations and interpretations of emotion-related events (Arnold, 1960; Frijda, 1993; Lazarus, 1991; Roseman, 1984; Smith & Ellsworth, 1985).

Further, important questions still remain about whether and how consumers in specific emotional states encode and evaluate advertising messages featuring product attributes and related benefits in general and abstract versus specific and concrete ways. The current research specifically focuses on the dimension of certainty in classifying emotions beyond valence and investigating the effects of specific emotions on cognitive judgements and consumer evaluations of advertising messages construed at different levels for three reasons.

First, the certainty dimension has been identified as an important one among the different cognitive appraisal dimensions developed by prior research (e.g., Roseman, 1984, Frijda, 1987; Smith & Ellsworh, 1985). Second, recent research also found that emotions characterized as certainty (vs. uncertainty), regardless of their valence, influence an individual 's cognitive processing and judgment in a congruent manner (Tiedens & Linton, 2001). Third, according to construal level theory, one of the four factors determining levels of mental representations of events or objects is certainty (Trope & Liberman, 2010; Wakslak, et al. 2006).

For instance, an ad message for an elliptical trainer can focus on health benefits (e.g., heart healthy, cardiovascular conditioning, bone strengthening, and lung capacity) while another advertising message may describe how specific features work for helping burn calories (e.g., 7 workout programs to keep you challenged, grip heart rate monitor). The scenario of advertising message framing illustrated are associated with the two distinct mental representations

highlighted in the construal level theory (Liberman & Trope, 1998; Trope & Liberman, 2010; Trope, Liberman & Wakslak, 2007).

The theory of construal level is an explanation of how psychological distance influences individuals' thoughts and behavior. On the basis of theories of categorization (Rosch 1975), concept formation (Medin & Smith 1984), and action identification (Vallacher & Wegner 1987), construal level theory basically proposes that individuals use low-level construals to represent psychologically near events or objects, whereas they use high-level construals to represent psychologically distant events or actions (Trope & Liberman, 2010). Construal level theory defines high-level construals (e.g., a "communication device") as abstract, coherent, superordinate, and decontextualized mental representations that extract the gist from the available information about events or actions (Trope & Liberman, 2010). Low-level construals (e.g., a "cell phone") are, in contrast, defined as concrete, specific, subordinate, and contextualized representations of information about events or actions (Trope & Liberman, 2010). Construal of psychologically remote events or objects emphasizes their superordinate or central features, whereas construal of psychologically proximate events emphasizes their subordinate or secondary features.

According to previous research, one of the four factors influencing one's psychological distance to a specific event or object is certainty (Kwon et al., 2015; Trope & Liberman, 2010; Wakslak, et al. 2006). For instance, decreasing an event's certainty allows individuals to represent the event in a more high-level and abstract manner with a focus on the general features of the event, while increasing an event's certainty leads individuals to characterize the event in a more low-level and concrete way with an emphasis on the specific features of the event (Kwon et al., 2015; Trope & Liberman, 2010; Wakslak et al. 2006).

At its core, the current research, therefore, begins with the question: Do isolable emotions of the same global valence have differential impacts on consumers' responses to advertising messages presenting product benefits and attributes at different levels? The central idea of this research is that the appraisal components of emotions, specifically certainty appraisals, could differentiate emotions of the same global valence and lead individuals to have different construal mindsets.

This research is one of the first research efforts to investigate the impact of the certainty dimension of emotional states on constural levels and consumer evaluations about advertisements emphasizing either the why aspects of events or the how aspects of them. This study aims to accomplish goals: 1) it establishes a theoretical framework that can explain the impacts of different emotions on mental construal levels 2) it also accounts for the effects on persuasion from matching emotional states and advertising

messages that frame product benefits either at a more concrete or a more abstract construal level.

Conceptual Background

Emotion & Cognitive-Appraisals

The term "emotion" is viewed as a feeling state of readiness that results from cognitive appraisals of events or thoughts (Frijda, 1993; Lazarus, 1991). Compared to moods, emotions are much more differentiated and provide more attitude- and behavior-specific information (Cohen et al., 2008). Therefore, emotion is more likely than mood to be directly coupled with action tendencies and explicit actions (Frijda, 1993). The appraisal process that leads to emotion is based on antecedent motivational variables that interact with a set of environmental demands, constraints, and resources (Lazarus, 1991).

Emotions act as a link between events in the environment and individuals' responses (Bagozzi, Gopinath & Nyer, 1999). The emotions individuals experience in their lives strongly influence how they act in response to events and situations (Frederickson & Branigan 2005; Frijda, 2005; Siemer et al., 2007). Accordingly, emotions play an important role in generating distinct behavioral patterns relevant to a particular kind of significant events or situations.

A recent stream of research on emotional effects shows that different emotional states of the same valence (e.g., fear, anger, sadness) exert a different influence on subsequent cognitive processing, judgment, and behavior (e.g., Chowdhry et al. 2015; Lerner & Keltner, 2000, 2001; Lerner et al., 2004; Raghunathan & Pham, 1999; Raghunathan etl al., 2006; Tiedens & Linton, 2001). The central idea behind this stream of research is that there are qualitative differences in emotional states (Tiedens & Linton, 2001). This stream of research has identified cognitive-appraisal dimensions as key to understanding these qualitative differences (Green & Sedikides, 1999; Lerner & Keltner, 2000; Raghunathan & Pham, 1999; Tiedens & Linton, 2001).

Appraisal is defined "as an evaluation of what one's relationship to the environment implies for personal well-being" (Smith & Lazarus, 1993, p. 234) and specific emotions vary in terms of cognitive appraisals (Roseman et al., 1990; Smith & Lazarus, 1993). Appraisal theorists posit that emotions result from cognitive activities such as processing or evaluating personally relevant information (e.g., Frijda et al., 1989; Roseman, 1984; Smith & Ellsworth 1985). From this perspective, different emotional states can be distinguished on the basis of which appraisal components are involved and how they are involved (Frijda et al., 1989; Smith & Ellsworth, 1985; Ellsworth & Smith, 1988). That is, the different combinations of these cognitive appraisals elicit different emotions.

Appraisal Dimensions & Certainty

Through empirical examination of all appraisal dimensions in the prior research, Roseman (1984) proposed that five appraisals influence the experience of emotions. These include motivational state, situational state, probability (certainty), power, and agency (Roseman, 1984). Smith & Ellsworth (1985) and Ellsworth and Smith (1988) developed an appraisal model by integrating the models of Roseman (1984) and Scherer (1984). They consistently found evidence for five appraisal dimensions: (a) pleasantness: whether an experience is unpleasant or pleasant, (b) certainty: whether a situation involves uncertainty or certainty about what is happening, (c) self/other-agency: whether events are controlled by the self or another person, (d) attentional activity: whether a person is trying to devote attention to a stimulus or divert attention from it, and (e) anticipated effort: the amount of effort seen as needed to deal with a situation. For instance, when people feel angry or remember feeling anger, they report thinking that the situation is unpleasant and not of their own doing and that they are moderately certain about what is happening (Smith & Ellsworth, 1985, Ellsworth & Smith, 1988).

Ellsworth and Smith (1988) explored how cognitive appraisals differentiated and characterized specific emotions beyond mere valence. Specifically, the central dimensions that differentiate fear from other negative emotions are uncertainty and anticipated effort (Ellsworth & Smith, 1988). Anger is caused by the absence of a reward or presence of a punishment that is caused by other people when a positive outcome is deserved (Roseman et al., 1990). On the other hand, certainty and effort are the central dimensions which distinguish happiness from other positive emotions while hope arises from appraisals of a sense of uncertainty and individual control (Ellsworth & Smith, 1988). From this more appraisal-focused perspective, hope and happiness, both positive in valence, differ notably on various cognitive appraisals such as certainty, importance, and controllability (e.g., Roseman et al., 1994; Smith & Ellsworth, 1985).

Certainty & Congruent Effects

As explained, an increasing number of research findings indicate that specific central appraisal dimensions differentiate some emotions from other emotions. Among these dimensions, certainty has been deemed quite important in differentiating specific emotions In particular, a sense of uncertainty differentiates fear from other negative emotions while feeling of happiness is more strongly associated with the sense of certainty compared to other positive emotions (Frijda et al., 1993).

From the affect-as-information approach, the experience of emotions linked to certainty signals a higher certainty and confidence about what is

occurring in the current situation and what will happen next (Smith & Ellsworth, 1985). In contrast, other emotions associated with the sense of uncertainty lead individuals to feel unsure what is happening in the current situation and to about what will happen next (Fridja, 1993; Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985). Therefore, certainty appraisal is the degree to which future events seem predictable and comprehensible versus unpredictable and incomprehensible to the individual. Previous research suggests that the experience of certainty resulting from emotions can give rise to appraisal-congruent judgments in a subsequent situations and that the resulting experience of feeling certain or uncertain ultimately influence cognitive processing (Tiedens & Linton 2001).

Tiedens and Linton (2001) also found that respondents made predictions with greater confidence when under states of disgust or happiness than when under states of fear or hopefulness. They suggest that this is presumably because both disgust and happiness typically arise in situations appraised as certain (e.g., witnessing something repulsive or receiving very good news), whereas fear and hope typically arise in situations appraised as uncertain (e.g., going up for tenure). Taken together, the appraisal dimension of certainty has been recognized as an important one influencing people 's cognitive processing and judgment in a congruent manner. The concept of certainty has been recognized as an important factor influencing individuals' cognitive mental representation and information processing in the area of cognitive psychology (Kwon et al, 2015; Trope & Liberman, 2010; Wakslak et al., 2006).

Construal Level & Certainty

According to the theory of construal level, the same information about an event or action is more likely to be construed in terms of superordinate features rather than subordinate features when the event or object is psychologically distant than near (Trope & Liberman, 2010). To use a visual analogy, at a greater distance from an event or action, the main features of the event or action are more prominent, whereas the details are less prominent. From a distant perspective, individuals using high-level construals tend to see the forest, but from a proximal perspective, they are more likely to see the trees, using low-level construals (Fiedler, 2007).

At the core of differentiating construal levels lie psychological distances. A research stream within the framework of construal level theory has shown that different dimensions of psychological distance affect mental representations and that these mental representations, in turn, guide prediction, evaluation, and behavior. The dimensions of psychological distances influencing people 's construal levels include a temporal,

spatial, social, and certainty-related distance (Fiedler, 2007; Trope & Liberman, 2010; Trope et al., 2007). Further, recent advertising research has focused on the effect of psychological distance on consumers' evaluation of advertisements representing benefits at a higher or a lower level (Ahn & Sung, 2019; Hernandez et al., 2015; Lee, Roh & Rim, 2017; Song, 2019). These research findings suggest that the effects of the ad messages are moderated by perceived temporal and social distances.

How does an individual's perception of certainty relate to the types of construal levels? Wakslak et al. (2006) conducted a series of experimental studies to explore the relationship between certainty-related distances and construal levels. In one of the studies, participants were asked to imagine that they were either highly likely or highly unlikely to engage in the scenario and to group objects related to each of four scenarios into as many groups as they deemed appropriate. Participants in the improbable condition created fewer, broader groups out of the objects than participants in the probable condition (Wakslak et al., 2006).

In another study, Wakslak, et al. (2006) asked participants to read a flyer advertising about a paid research assistant position described in broad, general terms (e.g., helping behavior research) as well as in specific, low-level terms (e.g., dropping a book in front of participants). Participants in the high-probability condition were more likely to provide specific than general descriptions of the assistantship; this tendency was significantly lower for participants in the low-probability condition. In addition to these open-ended responses, participants were asked to identify the assistantship in specific or general terms on a forced-choice item. While participants in the high-probability condition preferred the specific to the general identification, those in the low-probability condition preferred the general identification to the specific one.

Another research study conducted by Kwon and his colleagues (2015), probability estimates for the occurrence of an event might exert an influence on the subsequent evaluation of a donation advertisement because probability imparts either a sense of distance or proximity. In particular, when individuals sense that a specific disease is less (more) likely to occur to them, a desirability-focused (feasibility-focused) donation message in relation with the disease is more persuasive than a feasibility-focused (desirability-focused) ad message (Kwon et al., 2015).

Accordingly, Wakslak et al. (2006) and Kwon et al. (2015) suggest that decreasing the probability of a given event enhances the tendency to activate high-level construals of that event. That is, certainty influences a set of distinct but related variables (e.g., identification of ends vs. means, broad vs. specific categorization, global vs. local p rocessing) that are implicated in a general shift between high-level construals and low-level construals

(Wakslak et al., 2006). These results provide invaluable insights into how an individual's perception of certainty has an influential impact on his or her subsequent representations of events or actions.

Following this logic, it is possible that people in an emotional state associated with feeling certain are more likely to represent events or actions in a more low-level, concrete manner in terms of their concrete and detailed features, where those in an emotional state related to feeling uncertain tend to represent the events or actions in a more high-level, abstract fashion. Therefore, the following hypothesis is put forth:

Hypothesis 1: Individuals induced emotions strongly linked to uncertainty construe actions at a higher level compared to those induced with emotions strongly linked to certainty.

Desirability vs. Feasibility

Another significant difference between high-level and low-level mental construals of events or actions is their emphasis on desirability versus feasibility considerations (Ahn & Sung, 2019; Baskin et al., 2014; Hernandez et al., 2015; Liberman & Trope, 1998). Desirability refers to the value of an end-state of the events or actions, whereas feasibility refers to the ease or difficulty of reaching the end-state (Sagristano et al., 2002). That is, desirability focuses on the superordinate "why" aspects of events or actions, whereas feasibility refers to subordinate "how" aspects of them (Trope et al., 2007).

Desirability is associated with a high-level feature of an event or action and is likely to be more influential in decisions about the more psychologically distant event or action. Feasibility, in contrast, is a low-level feature of an event or action and therefore is expected to be more influential in making decisions about the more psychologically near event or object. Based on the psychological distance of events or objects, people tend to focus on either goals associated with desirability or goals related to feasibility. That is, when they experience more psychological distance from an event or objects, they prefer desirability to feasibility (Baskin et al., 2014; Trope & Liberman, 2010).

A recent stream of research has revealed that when a purchase decision is planned for the psychologically distant future, desired benefits are more appealing than feasible attributes (Hernandez et al., 2015; Kim et al., 2018). On the contrary, when a purchase decision is planned for the near future, feasible attributes in the marketing message are more persuasive than desired benefits in the message (Hernandez et al., 2015; Kim et al., 2018). According to Ahn and Sung (2019), charity campaign message emphasizing feasibility (vs. desirability) are more appealing for those who felt socially close to beneficiaries while individuals who felt socially far from the beneficiaries showed more positive attitudes toward charity campaigns with

desirability (vs. feasibility).

However, little research attention has been paid to the fit between certainty-related emotions and ad messages framed at different construal levels. From the perspective of construal level theory, product benefits related to consumption goals can be framed differently in distinct advertising messages with an emphasis on desirability or feasibility (Lee et al., 2010; Trope & Liberman, 2010). In particular, desirability is manipulated within an ad message by describing a product in terms of expected benefits that highlight why one should use the product, while feasibility is expressed within an ad message by illustrating the product in terms of its features that stress how one can use them (Lee et al., 2010, 2010).

As described, emotions associated with certainty (vs. uncertainty) might trigger an individual's low-level (vs. high-level) construal mindset. Therefore, it can be suggested that individuals induced to feel emotions associated with certainty would be more favorable toward ad messages and advertised products when products are described in terms of feasibility rather than desirability and that the opposite would be found for those induced to feel emotions associated with uncertainty. Thus, the following hypothesis is put forth:

Hypothesis 2: Individuals induced emotions strongly linked to certainty will view an ad message focused on feasibility more favorably than an ad message focused on desirability; individuals induced with emotions strongly associated with uncertainty will view an ad messages focused on desirability more favorably than an ad message focused on feasibility.

Research Method

Overview of the Experiments

Two online experimental studies were conducted to test the proposed hypotheses and the research question six pretests were carried out for developing stimuli. In these studies, participants' four emotional states (i.e., happy, hopeful, angry, fearful) were manipulated by means of asking them to recollect emotion-related personal experiences (Study 1) or combining emotion-inducing news stories with the recollection of emotion-related experiences (Study 2).

To recruit participants for this research, Amazon's Mechanical Turk (hereafter AMT) was used. It is an online labor market where employees (called workers) are recruited by employers (called requesters) for the execution of tasks (called HITs, acronym for Human Intelligence Tasks) in exchange for a wage (called a reward). Recent research has documented that data obtained through AMT are at least as reliable as those obtained via traditional methods (Buhrmester et al., 2011;

Paolacci et al., 2010). Participants were paid $3.38-$4.00 for completing an experimental study.

Study 1 explored the positive relationship between emotions characterized by certainty appraisals (vs. by uncertainty appraisals) and mental representations of events at a lower-construal (vs. higher-construal) level. Study 2 tested the second hypothesis that the certainty appraisal content of emotions as a different impact on the evaluation of advertising messages focusing on feasible attributes versus desirable end states. To develop ad stimuli, two pretests were conducted.

Study 1

Experiment Design

A single-factor, between-subjects experimental design with four participant groups was employed to examine the effects of the certainty appraisal content of emotions on individuals' construal levels beyond mere valence. To test the first hypothesis, happiness (positive, certain), hope (positive, uncertain), anger (negative, certain), and fear (negative, uncertain) were selected because they were found to be significantly different in terms of certainty appraisals (Frijda, 1993; Smith & Ellsworth, 1985) and to exert certainty-congruent effects on subsequent judgment and information processing in the previous research (Tiedens & Linton, 2001). These emotional states were manipulated, using an imagery technique (see Appendix A).

Subjects

A total of 163 participants were recruited through AMT. Among the participants, 39.9% (n=65) were male and 60.1% (n=98) were female. The subjects came from the general population, which contributed to the external validity of the study results. The participants' ages ranged from 18 to 72 (M = 39.42).

Procedure

Before the participants had access to the study site, they were instructed that this online task consisted of two unrelated studies. The instruction also indicated that they were likely to complete the task within 30 minutes because the two unrelated studies were short. They were also informed that the purpose of the study was to understand emotion-related issues and judgments. Since the experiment was conducted online, signed informed consent was not obtained. Instead, participants' voluntary act of clicking on the "Accept HIT" button and filling out the questionnaire was considered to constitute informed consent.

After clicking the "Accept HIT" button, participants were randomly assigned to one of the following four experimental conditions: 1)

the happy emotional condition, 2) the hopeful emotional condition, 3) the angry emotional condition, and 4) the fearful emotional condition.

The "first" study on emotional memories, which served as an emotion induction, was introduced. The participants, in an open-ended questionnaire, were instructed to remember, relive, and recall events that had made them feel a specific emotion (i.e. happy, hopeful, angry, or fearful) and to write a personal story related to the feeling state (Smith & Ellsworth, 1985). In brief, the participants were first asked to recall a past emotional experience and, when they were ready, they were asked to answer a series of six questions about the emotional experience by describing their personal experience in more detail (Smith and Ellsworth, 1985) (See Appendix A).

After answering the six questions, participants also responded to a shortened version of Smith and Ellsworth's (1985) appraisal questionnaire with regard to the certainty and valence appraisal dimensions. This shortened appraisal questionnaire served as a manipulation check. All five items were rated on 11-point scales ranging from 1 (not at all) to 11 (extremely).

In the "second" study, participants were informed that the requester was seeking their help in understanding what certain behaviors mean to people. They were instructed to select which of two ways best describe how they thought about certain actions based on their first impression. After this instruction, participants were presented with two alternative descriptions for 19 different target behaviors and were asked to choose the description that they personally believed to be more appropriate for each pair. In particular, each activity was followed by two descriptions. One description was associated with abstract construal and addresses the "why" aspect of the activity (Vallacher & Wegner, 1989). The other was associated with concrete construal and addresses the "how" aspect of the activity (Vallacher & Wegner, 1989). An overall score was obtained by adding the number of abstract descriptions selected by a participant across 19 behaviors.

Manipulation

Prior research has showed that emotions are easily manipulated through exposure to affectively charged stimuli such as music, videos, and pictures, or through the recall of emotionally involving experiences (Baas et al., 2008; Brenner, 2000; Gerrards-Hesse & Spies, 1994). Among those, the imagery technique has been deemed to be quite efficient and effective in terms of inducing distinctive and subtle emotional states (Cohen et al., 2008). For using the imagery technique, subjects in the four different conditions (happiness, hope, anger, and fear) were required to recall a past emotional experience that made them the target of each feeling. They were asked to write about their own autobiographical emotional event by

answering a series of six open-ended questions in more detail.

Measures

Construal Level

The hypothesized certainty-congruent effects of emotions on mental construal levels were explored using the 19-item version of Behavior Identification Form (hereafter BIF, Vallacher & Wegner, 1989; as Liberman & Trope (1998). In the BIF, midlevel neutral actions are listed along with two alternative descriptions for each action at a lower or higher construal level.

Specifically, participants were presented with two alternative descriptions for 19 different target behaviors. Each item presented a target behavior (e.g., "locking a door") and asked participants to choose the description that they personally believed to be more appropriate for each pair: one describing it in terms of its means (how an action is performed; e.g., "turning a key") and one describing it in terms of its ends (why an action is performed; e.g., "securing a house"). Preference for the low-level identification for an item was coded as a 0, whereas preference for the high-level identification was coded as a 1. These values were then summed to create an index of level of action identification ranging from 0 to 19, with higher scores indicating stronger preferences for high-level construal.

Results

Manipulation Check

To check the efficacy of emotion manipulation, a shortened version of Smith and Ellsworth's (1985) appraisal questionnaire with regard to the certainty and valence appraisal dimension was used. Participants were presented with: (1) "How well did you understand what was happening around you in this situation?" (2) "How well could you predict what was going to happen in this situation?" (3) "How uncertain were you about what was happening in this situation?" (reverse-coded item) (4) "How unpleasant was it to be in the situation you wrote about?" (reverse-coded item) (5) "How enjoyable was it to be in the situation you wrote about?" Responses ranged from 1 = not at all to 11 = extremely. The first three items were averaged to form a Certainty Index (Cronbach's α = .72), and the last two items were averaged to form a Valence Index (Cronbach's α = .95). To assess the effectiveness of the recollection of a past personal experience as an emotion-induction technique, a series of one-way ANOVAs on the two indexes were conducted.

Valence. A one-way ANOVA on the Valence Index showed the significant difference between positive and negative emotions $F(3, 159) = 253.60$, $p < .001$). Participants who had undergone the happy ($M_{happy} = 10.41$) and

hopeful ($M_{hopeful}$ = 8.01) inductions rated their experience as more pleasant than did those who had undergone the angry (M_{angry} = 1.48) and fearful ($M_{fearful}$ = 1.50) inductions.

Certainty. Another one-way ANOVA result revealed the predicted differences between certainty-related emotions and uncertainty-related emotions ($F(3, 159) = 30.06$, $p < .01$). Subsequent contrast analyses using Tukey's procedure indicated that participants who were induced to feel happy provided significantly higher Certainty Index scores (M_{happy} = 9.03) than did those who were induced to feel hopeful ($M_{hopeful}$ = 6.93, $p < .01$), angry (M_{angry} = 7.87, $p < .05$), and fearful ($M_{fearful}$ = 5.16, $p < .01$). In contrast, the participants who were induced to feel fearful ($M_{fearful}$ = 5.16) rated their experience as more uncertain than did those who were inducted to feel happy (M_{happy} = 9.03), hopeful ($M_{hopeful}$ = 6.93), and angry (M_{angry} = 7.87) ($p < .01$) (See Table 1). Further, the certainty ratings of participants who were induced to feel fearful were in the lower portion of the Certainty Index. Anger led to significantly lower Certainty Index scores than happy, and hope resulted in significantly higher Certainty Index scores than fear. Further, the difference in Certainty Index scores between the participants in the angry and hope condition was not significant ($M_{hopeful}$ = 6.93, vs. M_{angry} = 7.87, p = .10).

Hypothesis Testing

The first hypothesis was tested via a single-factor ANOVA for BIF scores. This analysis demonstrated there were significant differences in the BIF scores between four emotional conditions ($F(3, 159) = 9.73$, $p < .01$, $\eta^2 = .16$). A post hoc analysis using Tukey's procedure revealed that participants in the fear ($M_{fearful}$ = 14.49) condition had the highest BIF scores compared to those who were induced to feel happy (M_{happy}= 8.89), angry (M_{angry} = 11.71), and hopeful ($M_{hopeful}$ = 11.82) at a significant level of .05. In contrast,

Table 1. Difference in Means for the Certainty Index in Study 1

Contrast	Mean Difference	*P-value*	95% Confidence Interval
Happiness vs. Hope	2.10	<.01	1.04, 3.17
Happiness vs. Anger	1.16	<.05	.08, 2.24
Happiness vs. Fear	3.87	<.01	2.77, 4.97
Hope vs. Anger	-.94	=.10	-1.99, .11
Hope vs. Fear	1.77	<.01	.70, 2.84
Anger vs. Fear	2.71	<.01	1.62, 3.79

Note: Tukey's HSD Procedure

participants in the happiness condition provided significantly lower BIF scores than did those in the other three conditions (M_{happy} = 8.89 vs. $M_{hopeful}$ = 11.82, M_{angry} = 11.71, $M_{fearful}$ = 14.49, $p < .05$). The BIF scores between participants in the anger and hope condition showed no significant difference (M_{angry} = 11.71 vs. $M_{hopeful}$ = 11.82, $p = .99$). These results partially supported the first hypothesis.

Discussion

The hypothesized effect of emotion on mental construal was partially supported in Study 1. Fear, which was lowest on the certainty measure than other feeling states, led participants to have higher BIF scores. It was expected that participants in the hope condition would have similar BIF scores compared to those in the fear condition. However, the difference in the BIF scores between the groups was significant. On the other hand, happiness and anger, which are deemed to be emotions associated with certainty, resulted in significantly different BIF scores between participants in the two conditions. Further, the results indicated that the two emotions (i.e. happiness vs. hope, anger vs. fear) within the same valence led to significantly different BIF scores. This implies that when specific emotions are induced, the certainty appraisal content of them rather than their valence is able to influence an individual's mental construal level.

About the results of Study 1, which did not fully support the first hypothesis, one possible explanation is that the certainty appraisal content of anger and hope is not influential enough to affect subsequent cognitive processing and judgment compared to happiness and fear. According to some appraisal theorists, hope is weakly associated with or is not strongly connected to uncertainty appraisal (Ellsworth & Smith, 1988; Frijda et al., 1989; Tesser, 1990). Anger, which is mostly distinguished from other negative emotions by agency appraisal, is not strongly related to certainty appraisal (Ellsworh & Smith 1988) or is weakly associated with uncertainty appraisal (Tessor 1990). In a similar vein, the effects of anger and hope on construal levels were not significantly different in Study 1.

Study 2

Pretest I: Product Selection

As suggested by previous research, it is desirable to choose consumer products with the appropriate level of familiarity for controlling for the effect of brand and product familiarity on advertising messages (Kent & Allen, 1994). Further, another objective of Pretest I was to find a product category which could minimize the uncontrollable effects of participants' product knowledge on a target product for Study 2.

A brief pretest was, thus, administrated with 38 participants. For the pretest I, 38 AMT workers were recruited. Among the participants, 31.6% (n=12) were male and 68.4% (n=26) were female. The participants' ages ranged from 19 to 69 with an average of 39.2. It measured familiarity of several products by adopting and modifying Kent and Allen's (1994) two items on "How familiar are you with _____?" and "How knowledgeable are you about _____?" These two items were evaluated on 7-point scales ranging from 1(Not at all) to 7(Extremely) and were averaged to a composite familiarity measure.

A one sample t-test at the value of 4 on the familiarity measure was conducted. The elliptical trainer was chosen as a target product for two reasons. First, as indicated, participants showed appropriate familiarity compared to other products (See Table 2 and Table 3). Second, it was found that elliptical trainers' benefits could be easily described in terms of either desirability

Table 2. Product Familiarity

Product Category	Minimum	Maximum	Mean	SD
Vacuum Cleaner	4.00	7.00	5.87	0.82
DSLR Camera	1.00	7.00	3.08	1.89
Running Shoes	2.00	7.00	4.87	1.58
Popcorn	4.50	7.00	6.13	0.75
Treadmill	2.00	7.00	5.16	1.31
Elliptical Trainer	1.50	7.00	4.22	1.73
Streaming Media Player	2.00	7.00	5.27	1.16

Table 3. One-sample t-Test Results for Familiarity

Product Category	*t*	*P-value*	95% Confidence Interval
Vacuum Cleaner	9.89	<.01	1.47, 2.27
DSLR Camera	-2.10	=.05	-1.84, 0.00
Running Shoes	2.37	<.05	0.10, 1.64
Popcorn	12.21	<.01	1.76, 2.50
Treadmill	3.81	<.01	.52, 1.80
Elliptical Trainer	.54	=.60	-0.65, 1.10
Streaming Media Player	4.60	<.01	0.67, 1.80

**note: test value at 4*

or feasibility (Lee et al., 2010).

Pretest II: Choice of Advertising Messages

Pretest II aimed to develop two different messages representing product benefits either desirability or feasibility. First, a fictitious brand (The Trekstar A40) was created for experimental purposes in order to minimize prior familiarity with and attitude toward existing brands and products. By adapting the stimuli used by previous research (Lee et al., 2010), a high-level construal ad message for the Trekstar A40 elliptical trainer had a headline, "THE ULTIMATE AEROBIC MACHINE FOR A GREAT WORKOUT!" followed by a subheadline, "WHY EXERCISE?" The ad message focused on two benefits that addressed high-level concerns of why one would exercise (Lee et al., 2010; Trope et al., 2007) (see Figure 1).

On the other hand, a low-level construal ad message for the Trekstar A40 began with "THE ULTIMATE AEROBIC MACHINE WITH THE RIGHT FEATURES!" and "HOW TO EXERCISE?" This low-level construal ad described two functional benefits that the Trekstar A40 could provide its users with (see Figure 2).

For this pretest, 28 AMT workers were recruited. Among the participants, 67.9%(n=19) were male and 32.1% (n=9) were female. The participants' ages ranged from 21 to 58 with an

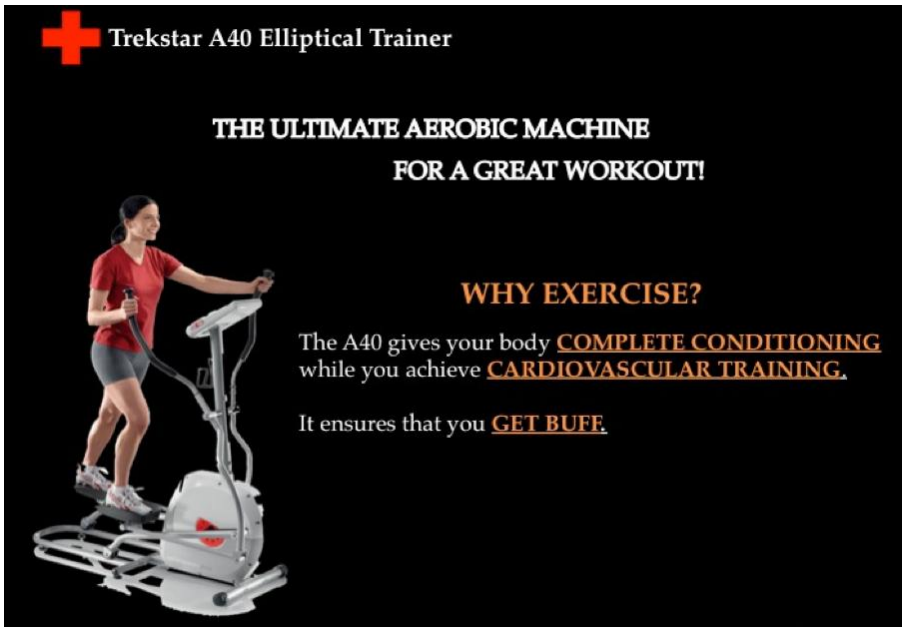

Figure 1. High-level Ad Message

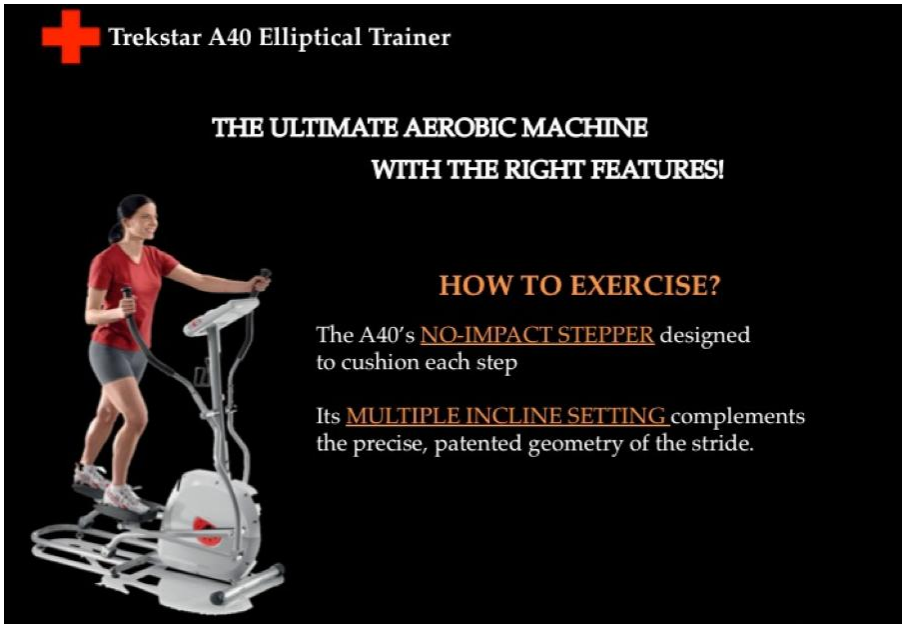

Figure 2. Low-level Ad Message

average of 34. 14 participants were exposed to the high-construal ad message and the other 14 participants were presented with the low-construal ad message.

After reviewing the ad messages, all the participants were subsequently asked to indicate the extent to which they agreed or disagree with the two statements for a manipulation check: "The ad for the A40 focuses more on the ideas about the advantages its buyers achieve after using it" and "The ad for the A40focuses more on the ideas about the features its buyers use while doing a workout on it." The participants responded on a seven-point scale (1 = strongly disagree; 7 = strongly agree).

They also evaluated the ads and the advertised brand by responding to a series of questions. Participants' responses were measured on a list of 9-point seven semantic differential items anchored by "bad/ good," "ineffective/ effective," "not impactful/ impactful," "not informative/ informative," "useless/ useful," "not persuasive/ persuasive," "not attractive/ attractive" (Bezjian-Avery et al., 1998; Hong & Lee, 2008; Martin et al., 2004; Williams & Drolet, 2005) (Cronbach's α = 0.93).

Attitudes toward the Trekstar A40 were captured on a five-item, nine-point semantic differential items anchored by "bad/ good," "not attractive/ attractive," "undesirable/ desirable," "unfavorable/ favorable," "unnecessary/ necessary" (Babin & Burns, 1997; Lepkowska-White et al., 2003; Sengupta & Johar, 2002) (Cronbach's α = 0.90).

Participants in the high-construal ad condition perceived that the ad conveying desired benefits focused more on the advantages the Trekstar A40's users could achieve as opposed to the features the Trekstar A40 would provide to its users ($M_{\text{High-construl}}$ = 5.21 vs $M_{\text{Low-construal}}$ = 3.50, $t(27) = 3.76$, $p < .01$). In contrast, the reverse pattern for subjects in the low-construal ad condition was significant ($M_{\text{Low-construal}}$= 6.00 vs. $M_{\text{High-construl}}$ = 3.64, $t(27) = 3.94$, $p < .01$). As expected, these results indicated that participants clearly understood the meaning of these two ads. However, the results of independent samples t-tests on the ad attitude ($M_{\text{High-construl}}$ = 5.87 vs. $M_{\text{Low-construal}}$=5.90, $t(27)$=.06 p = .96) and brand attitude measure ($M_{\text{High-construl}}$ = 6.00 vs. $M_{\text{Low-construal}}$ = 6.34, $t(27)$ = .82 p = .42) were not significantly different. Thus, it was expected that the main effect of ad messages would not be significant in the main experiment study.

Main Experiment Design

The second hypothesis was tested using a 2 (ad message framing: desirability vs. feasibility) x 4 (emotion: happiness, hope, anger, fear) between-subjects design. The first independent variable was ad message framing. The two ad messages developed and pretested in Pretest II were used for this experimental study. The second independent variable was momentarily induced emotional states. Participants' emotional states were manipulated by the combined induction procedures.

Subjects

A total of 179 AMT workers who did not participate in the previous pretests and experiments were recruited. They came from the general population and completed the tasks and questionnaires for this study. Among the participants, 54.2% (n=97) were male and 45.8% (n=82) were female. The participants' ages ranged from 18 to 74 with an average of 36.

Procedure

Before the participants had access to the study site, they were informed that they were likely to complete three unrelated tasks within the 30 minutes. Instead of signed informed consent, participants' voluntary act of clicking on the "Accept HIT" button and filling out the questionnaire constituted informed consent.

After instructed about this online study, participants were randomly assigned to one of the following eight experimental conditions: 1) the happy and high-construal ad condition, 2) the happy and low-construal ad condition 3) the hopeful and high-construal ad condition, 4) the hopeful and low-construal ad condition 5) the angry and high-construal ad condition, 6) the angry and low-construal ad condition, 7) the fearful and high-construal ad condition, and 8)

the fearful and low-construal ad condition.

Four emotional states (happiness, hope, anger, fear) were induced using the combined emotion-induction procedure. Participants were instructed to complete a news story task and an autobiographical recall task.

In the first task, participants were asked to read news stories, which had been found to be effective in inducing specific emotional states. In the happy condition, participants read the Batkid story while those in the hopeful condition read the story about Avery Walker, who overcame acute lymphoblastic leukemia, a blood cancer that can be deadly within a few months if not treated. Participants in the angry condition read the news stories about Norwegian mass-killer Anders Behring Breivik and his jail complaints. To induce the feeling of fear, participants in the fearful condition read the news story illustrating Boston Marathon bombings and pressure cooker bombs.

After reading the news stories, participants were asked to complete the self-report emotion form in which they rated the extent to which they felt for each of 18 separate emotion terms (angry, happy, disturbing, optimistic, sad, fearful, irritated, hopeful, frustrated, scared, excited, afraid, cheerful, nervous, inspired, hostile, downhearted, delighted) (Goldberg et al., 1999; Gross & Levenson, 1995; Lerner & Keltner 2001). This self-report form included more emotion terms aimed to make the emotion manipulation check disguised and to minimize participants ' hypothesis guessing.

The second task on emotional memories, which served as the second part of the combined induction procedure, was introduced. A relatively short imagery technique developed by Lerner and Keltner (2001) was used for this experiment. Initially, participants to answer two open-ended questions as truthfully as possible. The first question asked participants to briefly describe two personal events that made them feel happy (hopeful, angry, fearful). The second question asked participants to describe in more detail "the one event that has made you most happy (hopeful, angry, fearful)." Immediately, after describing the event, participants were asked (1) "How well did you understand what was happening around you in this situation? (2) How well could you predict what was going to happen next in this situation? (3) How uncertain were you about what was happening in this situation?" These items were measured on 7-point scales ranging from 1(not at all) to 7 (extremely). This shortened appraisal questionnaire served as a manipulation check for certainty (Smith & Ellsworth, 1985).

In the third task, half the participants in each emotional condition were asked to review the high-construal ad for the Trekstar A40. The others were asked to review the low-construal ad for the Trekstar A40. After reviewing the ad, all the participants were subsequently instructed to answer a series of questions for the assessment of the dependent variables evaluating their

attitudes towards ads and brands, as well as purchase intentions. In addition, the participants responded to questions to measure their involvement with and knowledge about elliptical trainers (product involvement, product knowledge) and provided their demographic information. Lastly, they were thanked for their participation and obtained their confirmation code for their wage.

Measures

Ad Attitude

The dependent variables assessed the interactive effect between emotional states and advertising messages describing product benefits at different construal levels. In particular, participants' attitudes toward the two ads were captured on a four-item, seven-point semantic differential scale anchored by "bad/ good," "ineffective/ effective," "not informative/ informative," "not persuasive/ persuasive" (Bezjian-Avery et al., 1998; Martin et al., 2004; Williams & Drolet, 2005). These four items were chosen because they were used more frequently in previous research on advertising. These items were averaged to an Ad Attitude Index (Cronbach's $\alpha = 0.89$).

Brand Attitude

Attitudes toward the Trekstar A40 were assessed on four seven-point semantic differential items. These items were anchored by "bad/ good," "not attractive/ attractive," "undesirable/ desirable," "unfavorable/ favorable" (Lepkowska-White et al., 2003; Sengupta & Johar, 2002) and were averaged to form a Brand Attitude Index (Cronbach's $\alpha = 0.96$).

Purchase Intention

Participants' purchase intentions were captured on a three-item, seven-point semantic differential scale by asking how "unlikely/ likely," "uncertain/ certain," and"impossible/ possible" it was that they would purchase the Trekstar A40 if they were in the market for elliptical trainers. The three items were averaged to form a Purchase Intention Index (Cronbach's $\alpha = 0.84$).

Covariates

Two potential covariates were measured to control for extraneous variation in the data using analysis of covariance—product involvement and product knowledge. Since a consumer's product involvement and product knowledge influence his or her processing of new and product-related information (Johnson & Russo, 1984; Petty et al., 1983), it appeared to be important to explore whether the proposed interaction effect between emotional states and advertising messages construed at different levels on persuasion was robust regardless of the two covariates.

Product involvement was measured on three, seven-point Likert items ("I have a strong interest in elliptical trainers," "Elliptical trainers

matter a lot to me," "I get bored when other people talk to me about elliptical trainers") (Bloch, 1981; Srinivasan & Ratchford, 1991). These items were averaged to form a composite product involvement measure (Cronbach's α = 0.81). I measured product knowledge on three, seven-point items ("I have a lot of experience with elliptical trainers," "As compared to the average person, I would say that I am highly knowledgeable about elliptical trainers," "I would describe myself as being very familiar with elliptical trainers). These items were also adopted from Srinivasan and Ratchford (1991) and were averaged to form a composite product knowledge measure (Cronbach's α = 0.93).

Results

Manipulation Check

Emotion Induction

To verify the emotion induction effect of the combined technique in Study 2, participants' responses for the happy, cheerful items were averaged to form a Happiness Index (Cronbach's α=.96). Their responses for the angry and irritated items were averaged to form an Anger Index (Cronbach's α=.90). The fearful, scared, and afraid items were averaged to forms a Fear Index (Cronbach's α=.98). Participants' averaged responses for the hopeful and optimistic items were averaged to form a Hope Index (Cronbach's α=.96).

A series of one-way ANOVAs and planned contrasts using two-tailed tests were performed to examine the effect of the combined technique on emotion induction. The combined technique induced participants' emotional states at a significant level. Participants in the happy condition felt happier than did those in other conditions (M_{happy} = 5.85 vs. $M_{hopeful}$= 4.74, M_{angry} = 1.20, $M_{fearful}$= 1.31; $F(3, 175)$ = 197.13, $p < .01$). Participants in the hopeful condition felt more hopeful than did those in three other conditions ($M_{hopeful}$ = 5.87 vs. M_{happy} = 5.13, M_{angry} = 1.42, $M_{fearful}$ = 1.79; $F(3, 175)$ = 190.13, $p < .01$). Participants induced to feel angry had higher ratings of the Angry Index than did those induced to feel happy, hopeful, and fearful (M_{angry} = 5.31 vs. M_{happy} = 1.19, $M_{hopeful}$= 1.26, $M_{fearful}$= 4.67; $F(3, 175)$ = 180.05, $p < .01$). Participants in the fearful condition showed higher levels of the Fearful Index than did those reading other stories ($M_{fearful}$ = 5.71 vs. M_{happy} = 1.23, $M_{hopeful}$ = 1.37, M_{angry} = 1.73; $F(3, 175)$ = 182.77, $p < .01$).

Certainty

The effect of the emotion induction procedure was evaluated on Smith and Ellsworth's (1985) certainty appraisal items used in Study 1. The three certainty items were averaged to for a Certainty Index (Cronbach's α = .73).

A one-way ANOVA was run on the

Table 4. Difference in Means for the Certainty Index in Study 2

Contrast	Mean Difference	*P-value*	95% Confidence Interval
Happiness vs. Hope	.75	<.01	0.11, 1.40
Happiness vs. Anger	.97	<.01	0.32, 1.63
Happiness vs. Fear	1.80	<.01	1.15, 2.45
Hope vs. Anger	.22	=.81	-0.42, 0.86
Hope vs. Fear	1.05	<.01	0.41, 1.69
Anger vs. Fear	.83	<.01	0.18, 1.48

**Note: Tukey's HSD Procedure*

Certainty Index, and the result revealed significant differences among participants in the four emotion conditions ($F(3, 175) = 17.39$, $p < .001$). Subsequently, a post hoc analysis using Tukey's procedure shows that participants who were induced to feel happy ($M_{happy} = 5.16$) provided significantly higher ratings in the Certainty Index than did those induced to feel hopeful ($M_{hopeful} = 4.40$), angry ($M_{angry} = 4.18$), and fearful ($M_{fearful} = 3.36$) ($p < .01$) (See Table 4). By contrast, participants induced to feel fearful had significantly lower ratings in the Certainty Index than did those in other conditions ($p < .01$), and their scores were only in the lower portion of the Certainty Index. However, the difference in the Certainty Index scores between participants in the angry and hopeful condition was not significant ($p = .81$).

Message Framing

As a check on construal level manipulation, the four Likert items were used: "(1) The ad message emphasizes the desired effects which the A40's users expect by using it," (2) "The ad message emphasizes the functional features with which the A40 provides its users," (3) "The ad focuses more on the ideas about the benefits the A40 buyers achieve after using it," (4) "The ad focuses more on the ideas about the features A40's buyers use while doing a workout on it." Responses ranged from 1 (strongly disagree) to 7(strongly agree). The responses for the first and third item were averaged to form a Desirability Index (Cronbach's $\alpha = .86$) while the responses for the remaining items were averaged to form a Feasibility Index (Cronbach's $\alpha = .84$).

Subjects in the high-level construal ad condition had higher ratings of the Desirability Index than did those in the low-level construal ad condition ($M_{Desirability} = 5.61$ vs. $M_{Feasibility} = 3.47$; $t = 10.78$, $p < .01$). In contrast, subjects in the low-level construal ad condition perceived that the ad emphasizing the Trekstar A40's

features pertained to how it would work ($M_{Feasibility}$ = 5.60 vs. $M_{Desirability}$ = 3.55; t = 9.97, p < .01). Thus, the construal framing manipulation was successful.

Hypothesis Testing

Three separate 2 (construal level: high-level vs. low-level) x 4 (emotion: happiness, hope, anger, fear) ANOVAs were conducted for each of the dependent measures (i.e., ad attitude, brand attitude, purchase intention). The results yielded no significant main effects for emotion and construal level. However, the interaction of construal level and emotion was significant for ad attitude (F(3, 171) = 9.57, p < .01), brand attitude (F(3, 171) = 9.03, p < .01), and purchase intent (F(3,171) = 8.77, p < .01) as shown in Table 5.

Participants in the fear condition rated the high-level construal ad message focusing on desirability more positively ($M_{adattitude}$ = 5.11, $M_{brattitude}$ = 5.58, M_{pi} = 5.05) than the low-level construal ad focusing on feasibility ($M_{adattitude}$ = 3.70, $M_{brattitude}$ = 4.15, M_{pi} = 3.71) (p < .01). By contrast, for participants in the happiness condition, the low-level construal ad was rated more favorably ($M_{adattitude}$ = 5.24, $M_{brattitude}$ = 5.43, M_{pi} = 5.16) than the high-level construal ad ($M_{adattitude}$ = 3.88, $M_{brattitude}$ = 4.22, M_{pi} = 3.80) (p < .01). However, the responses of participants in the hope and anger condition to the high-level and low-level construal ad message were not significantly different. Table 6 presents the cell means for the dependent measures.

In addition, a series of 2 (construal level: high-level vs.low-level) x 4 (emotion: happiness, hope, anger, fear) ANCOVAs with the product involvement measure were conducted. The results yielded no significant main effects for emotion and construal level. The interaction of construal

Table 5. Univariate Analysis of Variance Results

Dependent variables	Factor	*df*	*F*-value	*p*-value	Partial$_{\eta}^2$
Ad Attitude	Emotion	3	1.53	.21	.03
	Construal	1	.03	.87	.00
	Emotion x Construal	3	9.57	.00	.15
Brand Attitude	Emotion	3	2.10	.10	.04
	Construal	1	.32	.57	.00
	Emotion x Construal	3	9.03	.00	.14
Purchase Intention	Emotion	3	1.70	.17	.03
	Construal	1	.02	.89	.00
	Emotion x Construal	3	8.77	.00	.13

Table 6. Cell Means and Sample Sizes

	Happiness		Hope		Anger		Fear	
	HLCA	LLCA	HLCA	LLCA	HLCA	LLCA	HLCA	LLCA
Ad attitudes (α = 0.89)	3.88	5.24	4.15	4.00	4.10	4.18	5.11	3.70
Brand attitudes (α = 0.96)	4.22	5.43	4.61	4.33	4.29	4.38	5.58	4.15
Purchase intentions (α = 0.84)	3.80	5.16	4.04	4.02	3.96	4.06	5.05	3.71
N	22	21	25	22	23	21	22	23

**HLCA = High-level Construal Ad/ LLCA = Low-level Construal Ad*

level and emotion was still significant for ad attitude ($F(1, 170) = 8.56$, $p < .01$), brand attitude ($F(1, 170) = 7.89$, $p < .01$), and purchase intent ($F(1, 170) = 7.98$, $p < .01$). The cell means for the dependent variables barely changed.

As shown in Table 7, a series of planned contrasts using two-tailed tests revealed that the ad message focusing on desirability was significantly more appealing and persuasive to

Table 7. Differences in Means for Ad Attitude, Brand Attitude, Purchase Intention

Message Frame	Contrasts	Ad Attitude		Brand Attitude		Purchase Intention	
		Mean Diff.	*P-value*	*Mean Diff.*	*P-value*	*Mean Diff.*	*P-value*
Low-level	Happiness vs. Hope	1.24	<.01	1.10	<.05	1.14	<.05
	Happiness vs. Anger	1.06	<.05	1.05	<.05	1.10	<.05
	Happiness vs. Fear	1.54	<.01	1.28	<.01	1.45	<.01
	Hope vs. Anger	-.18	=.99	-.05	=.99	-.05	=.99
	Hope vs. Fear	.30	=.99	.18	=.99	.31	=.99
	Anger vs. Fear	.48	=.99	.23	=.99	.35	=.99
High-level	Happiness vs. Hope	-.28	=.99	-.39	=.99	-.24	=.99
	Happiness vs. Anger	-.22	=.99	-.08	=.99	-.15	=.99
	Happiness vs. Fear	-1.23	<.01	-1.36	<.01	-1.24	<.01
	Hope vs. Anger	.05	=.99	.32	=.99	.08	=.99
	Hope vs. Fear	-.96	<.05	-.97	<.05	-1.01	<.05
	Anger vs. Fear	-1.02	<.05	-1.29	<.01	-1.09	<.05

the participants in the fear condition than those in other emotional conditions. On the other hand, the ad message focusing on feasibility was significantly more appealing and persuasive the participants in the happiness condition than those in other three emotional conditions. Taken together, the second hypothesis was partially supported.

Discussion

It is worth noting that the persuasiveness of advertising messages presenting product benefits at a low or a high construal level can vary according to the certainty appraisal content of emotions. These findings suggest that this certainty appraisal can affect one's pursuits of consumption goals construed at different levels (e.g., desirability, feasibility). The feeling of happiness and fear strongly associated with the certainty (or uncertainty) appraisal subsequently influence an individual's situational construal level and his or her pursuits of consumption goals construed at different levels (e.g., desirability, feasibility).

The results of Study 2 affirmed that individuals who were induced to feel fearful responded to the high-level construal ad focusing on desirability than the low-level construal ad focusing on feasibility more favorably. The reverse pattern was true for individuals induced to feel happiness. These certainty-congruent effects were not discovered for individuals induced to feel hopeful and angry.

These results indicate that fear, which is distinguished from other emotions of the same valance by uncertainty appraisal, leads individuals to focus on the desirability of an advertised product. Thus, for individuals feeling fear, advertising messages illustrating a desired end-state are more persuasive than messages featuring the tangible attributes of the product. On the contrary, happiness, which is distinguished from other emotions of the same valance by certainty appraisal, leads individuals to emphasize the feasibility of the advertised product and to focus on how the product 's features are helpful in pursuing imminent and proximal consumption goals. These results show the limitations of the valence-based approach when investigating the effects of emotional states on construal levels and related judgments. Further, these findings are consistent with previous appraisal research suggesting the certainty appraisal content of anger and hope is less salient compared to the other emotions (e.g. happiness, fear) (Ellsworth and Smith, 1988; Frijda, Kuipers, ter Schure, 1989; Tesser, 1990).

General Discussion

This research empirically explores the hypothesized effects of four different emotional states (i.e., happy, angry, hopeful, fearful) in

online experimental settings. The results indicate that happiness and fear are significantly more linked to certainty appraisals than anger and hope. Specifically, fear is strongly associated with the sense of uncertainty while happiness is connected to the sense of certainty. However, when people are induced to feel angry and hopeful, certainty appraisals are not strongly accessible compared to happiness and fear. This finding is in agreement with previous research studies postulating that the certainty appraisal content of anger and hope is less salient compared to that of happiness and fear (Frijda et al., 1989; Tesser, 1990). Further, it is worth noting that the certainty index scores of individuals in the angry and hopeful conditions converge to the value of four in the 7-point scales in the both studies. Accordingly, it can be suggested that the sense of certainty (or uncertainty) is more involved with the feeling of specific emotions (e.g., happy, fearful) than other emotions (e.g., angry and hopeful).

This study intends to contribute to advertising and consumer psychology literature on several fronts. First, it extends the theoretical framework of emotion and cognition via introducing construal levels. Second, it provides salient evidence showing that different emotions of the same valence can exert a distinctive effect on subsequent cognitive representations of stimuli and judgments. As a result, we might better understand the effect of emotional states on subsequent cognitive processing, judgment, and behavioral intention. Third, from a priming perspective, this study shows how individuals ' emotional states have an influence on the interpretations of advertising messages. In addition, the findings point to how advertisers should develop their advertising strategies in terms of the relationship between consumers' emotional states and address practical implications for marketers and advertisers.

This research is also relevant to practitioners of advertising and marketing. By providing an understanding of emotional effects on the processing of ad messages, this research expands the scope of both strategic and tactical approaches to persuasion. From a managerial perspective, knowledge about the fit between emotional states and construal levels provides a guide for the construction of advertising messages and media plan. As media content affect the processing of ad messages by priming message recipients ' cognitive and emotional states (Yi, 1990), the current research proposes that ad messages framed at a construal level consistent with one's emotional state primed by media content would enhance the effectiveness of the messages.

For instance, embedded in crime dramas (e.g., Hannibal, CSI, Criminal Minds), which stimulates the feeling of fear, TV commercials focusing on desirability can be significantly more effective than those focusing on the feasibility because the feeling of fear leads to a higher-level construal mindset; but, when placed in comedy shows, TV

commercials concentrating on feasible attributes can be more persuasive than those featuring desired end states. Given that consumers differently construe ad messages at a higher or lower level, depending on emotional states, advertisers should take into account the fit between their ad message and media content.

The insight gained from the present research also offers implications for developing advertising messages for products that are innately purchased in order to decrease the feeling of fear and uncertainty (e.g., health products, insurance services, security services) (Morales et al., 2012). In particular, consumers who pay for any kind of insurance is proof that fear sells. The feeling of fear and uncertainty linked to purchasing these products might lead consumers to construe their consumption goals at a higher level. For these products, the greater persuasive impact of advertising messages might occur when the desirability of the advertised products are highlighted in the messages.

As with most discovery-based investigations, this study has several limitations that need to be addressed. First, limitations include alternative appraisal dimensions of emotion, such as effort, control, and agency (Roseman, 1984; Scherer, 1988; Smith & Ellsworth, 1985). These other dimensions might also exert an influence on mental construal levels and ad message processing. Future research should examine other cognitive appraisal dimensions of emotions to explore the emotional effects on construal levels and related ad message processing. For example, the control (self vs. other) appraisal components of emotions may influence the perception of social distances associated with construal levels.

Although four emotional states were induced and their effects were examined in this research, other emotional states (e.g., worry, sadness, disgust, pride) might be an antecedent determining one 's construal level and influencing subsequent cognitive processing. By exploring the effects of a wide array of emotion, future research could extend the generalizability of the findings of the current research.

Further, here only the effects of a single emotional state were taken into account, not examining the possibility and influence of mixed emotions. As shown in the experimental studies in the current research, emotion-induction materials (i.e. news stories) induced more than one specific emotion. For instance, experiencing fearful events, individuals might feel sad simultaneously. Therefore, different cognitive appraisals could be accessible and be interactively involved with mixed emotions. It would be a meaningful research effort to scrutinize the effects of mixed emotions on subsequent cognitive processing.

The findings of this research are limited to the specific purchase contexts and advertising messages. Future research should investigate whether similar effects will occur across different types of contexts and communications (e.g., self-control, health communication, altruistic

behavior).

From a methodological perspective, the current research combined emotion-induction news stories with the recollection of emotion-related personal experiences to induce specific emotions. Researchers could consider other ways to induce emotional states more realistically. For instance, it would be interesting to explore the potential influence of ad-induced emotions. Another area for future research is the direct assessment of actual behavior, in addition to attitudes and behavioral intentions, the outcomes measured here. Future research is also needed to explore whether other individual difference (e.g., self view, regulatory focus, and personality trait) factors simultaneously influence the interaction effects of emotions and messages framed at different construal levels. At the very least, this research should serve as an empirical foundation for other investigations of emotion, construal level, and persuasive communication.

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개별 감정의 확실성 요인이 해석 수준과 광고 평가에 미치는 영향 조사

권 오 윤

계명대학교 광고홍보학과 조교수

본 연구는 두 개의 연구 실험을 통해 감정의 확실성 요인이 개인의 해석 수준과 광고에 표현된 혜택의 해석에 미치는 영향을 조사하고 감정의 경험과 해석 수준 사이의 새로운 관계를 수립하고자 한다. 감정의 인지 평가 이론에 기반하여 본 연구는 감정의 확실성 발현 여부가 특정 감정을 경험하는 개인의 상위 수준 또는 하위 수준의 해석(가설 1)과 광고에 표현된 혜택 정보에 대한 해석과 반응(가설 2)에 직접적인 영향을 미친다고 제안한다. 구체적으로 확실성과 강하게 연결된 감정(예, 행복)은 행위나 사건을 하위 수준으로 해석하고, 불확실성과 강하게 연관된 감정(예, 공포)은 행위나 사건을 상위 수준으로 해석한다고 제안한다. 연구 1의 결과는 불확실성과 강하게 연관된 감정 상태를 경험하도록 유도된 개인은 행동이나 사건을 상위 수준으로 해석하며 반대로 확실성과 강하게 연결된 감정 상태를 경험하도록 유도된 개인은 행동이나 사건을 하위 수준으로 해석한다는 것을 보여준다. 개인의 감정 경험과 광고 메시지에 표현된 제품의 혜택의 해석 수준의 합치는 광고 메시지에 대한 더 우호적인 평가를 유발함을 연구 2의 결과가 제시한다. 구체적으로 확실성과 강하게 연결된 행복감을 느끼도록 유도된 개인은 제품 사용 후 획득할 바람직한 결과 보다는 제품의 실현 가능성에 초점을 맞춘 광고를 더 우호적으로 평가하며 반대로 불확실성과 강하게 연결된 공포감을 느끼는 개인은 제품 사용 후 획득 가능한 결과에 초점을 맞춘 광고를 더 우호적으로 평가한다는 것을 본 연구의 결과는 보여준다. 결과적으로 본 연구의 결과들은 개별 감정의 확실성 평가 요소가 인지적 해석 수준과 광고에 표현된 정보의 해석에 유효하게 영향을 미친다는 것을 제시한다.

주제어 : 감정, 인지 평가, 해석 수준, 광고 해석, 확실성

Appendix A: Imagery Technique (Study 1)

1. Instructions:

I want you to think of a past situation or event where you felt most happy (hopeful, angry, fearful). Picture this situation in your mind.

Try and remember as vividly as you can what this past happy (hopeful, angry, fearful) situation was like: Think of what happened to make you feel so happy (hopeful, angry, fearful), and what it felt like to be happy (hopeful, disgusting, fearful) in this particular situation.

Please click the ">>" button below when you are ready and have this happy (hopeful, angry, fearful) situation in your mind, and I'll ask you questions about it.

Remember you will be telling a Vulcan, who has never had a happy (hopeful, angry, fearful) experience, what one was like.

2. Open-ended Questions:

(1) Please describe this past happy (hopeful, angry, fearful) situation to me. What was it like to be happy in this situation?
(2) What happened in this situation to make you feel happy (hopeful, angry, fearful)?
(3) Why did these things make you feel happy (hopeful, angry, fearful)?
(4) How did you know that you were happy (hopeful, angry, fearful) in this situation?
(5) What did it feel like for you to be happy (hopeful, angry, fearful) in this situation?
(6) What did you do in this situation where you were happy (hopeful, angry, fearful)?