

THE ATTITUDINAL AND BEHAVIORAL EFFECTS OF PICTORIAL METAPHORS IN  
ADVERTISING: CONSIDERING NEED FOR COGNITION AND THE MEDIATING  
EFFECT OF EMOTIONAL RESPONSE

By

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To God, my beloved family and friends,  
for all their love, care, and support

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By

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Metaphor is defined as “an implied comparison between two dissimilar objects” (Sopory & Dillard, 2002 p. 382). McQuarrie and Mick’s (1999) findings reveal that visual tropes in ads provoked greater elaboration and positive ad appreciation than did verbal schemes.

It is also necessary to conduct research on how persuasive responses resulting from the emotional processing of metaphorical ads have an influence on a consumer’s attitude and behavioral intention. Thus, the current study provides the opportunity to consider the effect of the pictorial metaphor style in ads as a method of visual thinking with verbal support, and to examine the persuasive impact of ads with visual metaphors on emotional responses as well as ad attitudes, brand attitudes and purchase intentions.

An experimental design is used to investigate the effect of the interrelation between pictorial metaphor and headline copy in ads with an individual’s difference by Need for Cognition (NFC) on the attitude toward the ad, brand, and purchase intention, while considering emotions as a mediator.

Two experiments were conducted: Experimental study 1 compares the differences between non visual metaphor ad and visual metaphor ad all across the types of product. An experimental study 2 between-subjects randomized factorial design 2 (Pictorial metaphor type: implicit vs. explicit) x 2 (Headline type: directly illustrated copy vs. non-copy) x 2 (Need for cognition: High vs. Low) is proposed to test the hypotheses.

The study also considers that cognitive influences on the effectiveness of visual metaphors and emotional responses in metaphorical ads may have a crucial impact on ad effectiveness, while verbal elements in the metaphorical ads play a role in facilitating the interpretation of pictorial metaphors by consumers. Even though, with the assistance of headline copy, consumers completely understand the metaphorical meaning in the ad, if the ad with metaphors cannot finally evoke positive emotional responses, there is no positive effect from using such metaphors.

The current study's findings highlight the importance of the match between pictorial metaphor and headlines for ad effects by consumer's cognitive tendency of consumers, considering the affective responses of target consumers. In addition, the findings of this research provide better understanding or theoretical knowledge about the use of pictorial metaphor in ads and the effects they have on the attitude and behavior intentions of consumers.

## CHAPTER 1 INTRODUCTION

### Overview

Metaphors have become common in modern forms of communication, especially in the advertisements of today (Chang & Yen, 2013; Geary, 2011; Malkewitz et al., 2003; Phillips & McQuarrie, 2004; Rossiter, 2008). Pictorial metaphors are often employed in print advertising, and advertisers expend a great deal of time and energy in selecting appropriate visual/verbal expressions for product presentation to convey the main benefit of the advertised product (Bergkvist, Eiderback, & Palombo, 2012).

Merriam-Webster defines metaphor as a word or phrase for one thing that is used to refer to another thing in order to show or suggest that they are similar (Merriam-Webster, 2016). In previous studies, metaphor is defined as “an implied comparison between two dissimilar objects” (Sopory & Dillard, 2002 p. 382). A metaphor depends on cross-domain comparisons and can be defined as a type of rhetorical figure or as an artful deviation from common expectation (McQuarrie & Mick, 1996). A metaphor compares two objects through analogy by suggesting that one object is figuratively or semantically like another, even though on the surface they appear to be quite different (Ward & Gaidis, 1990).

In literature, one can find innumerable uses of metaphor. Shakespeare is widely considered to be a master of metaphor; one of his most famous is “Juliet is the sun” from *Romeo and Juliet* (Shakespeare, 1873). Although the use of metaphor in literature may lead to the conclusion that metaphor is typically used only by writers, in fact it is used in everyday communication as well. Common examples of metaphor in daily use include: “She is the apple of my eye;” “you are my sunshine;” “life is a marathon;” and

“America is a melting pot.” When we want to express various thoughts, emotions, or concepts, if metaphors are used effectively, we do not need to have numerous modifiers or a good number of illustrative phrases. There would be a need to depict a sentence or a figure with metaphor. When we describe abstract things such as concepts, ideas, and feelings, we very often and instinctively draw on metaphor (Geary, 2011). The influences on every aspect are found, from daily communication and advertising to news headlines and politicians’ speeches, from economics and business to science and psychology. In this light, metaphors work in all fields of our lives, even in imagery.

Various ad elements, such as verbal or pictorial metaphors, effectively convey the core benefits of products or services to consumers, persuading them to make purchases. Most of all, visual elements in ads can positively impact the effects ads achieve, such as changing brand attitudes (Rossiter & Percy, 1980), and ad recall or recognition (Jeong, 2008; Lutz & Lutz, 1977; McQuarrie & Mick, 1999, 2003; Zaltman, 2003). In particular, pictorial metaphors as visual elements in ads can help receivers engage in messages and motivate changes in their attitudes toward ads and brands (McQuarrie & Mick, 2003, 2009; Rossiter & Percy, 1980).

The use of metaphors in ads continues to rise consistently (Kim, Baek, & Choi, 2012; Phillips & McQuarrie, 2003); moreover, the use and proportion of metaphorical pictures or images in printed ads grew dramatically and rapidly during the twentieth century, while the proportion of verbal copy in ads steadily decreased (Phillips & McQuarrie, 2003; Pollay 1985). McQuarrie and Mick’s (1999) findings reveal that visual tropes in ads provoked greater elaboration and positive ad appreciation (ad liking) than did verbal schemes. Pictorial metaphors are an artful deviation (McQuarrie & Mick,

1996) and under this notion, the metaphors could have advantages to attract attention and add interest to an ad (McQuarrie & Mick, 1999).

The use of pictorial metaphors in advertising has benefits that can create additional entertainment or enjoyment (McQuarrie & Phillips, 2005), and ad engagement (McQuarrie & Mick, 2009). Metaphors may influence various consumer responses regarding credibility (Jeong, 2008), consumer belief (Phillips & McQuarrie, 2009), persuasion (Tom & Eves, 1999) and recall (Jeong, 2008; McQuarrie & Mick, 1999; Zaltman, 2003). Advertisements with pictorial metaphors are expected to foster a pleasurable experience (Forceville, 1994; McQuarrie & Phillips, 2005; Sopory & Dillard, 2002). The previous research only suggested a conceptual approach on the pleasurable experience from pictorial metaphors without any conditional experiment. Pictorial metaphors sometimes combine two mismatched images or contrasting meanings together, often without accompanying verbal explanations. Pictorial metaphors, therefore, tend to be more inherent and complex than verbal metaphors, leading viewers to describe several possible interpretations (Jeong, 2008). Along with this complexity comes deep engagement, drawing consumers' attention to the mismatched images or meanings in advertisements.

If some metaphorical ads have less direct metaphors in the complex figurative form, receivers require more effort and knowledge to interpret them. Chang and Yen (2013) classified pictorial metaphors as being composed of two styles of metaphor: implicit and explicit. According to the study (Chang & Yen, 2013), an explicit metaphor refers to the metaphor in the ad that is clear about the subject with the product image. The advertised product is presented to the viewer clearly with a visual metaphoric

display in explicit metaphors (e.g., a MacBook Air coming out of an envelope). In the current study, an explicit metaphor refers to the pictorial metaphor presented with the advertised product in the ad, and the advertised product is used with other objects or with a visual metaphoric display in the ad. Visual information in the explicit metaphors is synthesized or juxtaposed. An implicit metaphor does not show the product directly in the metaphoric illustration of ads, but occasionally the advertised product could be shown at the bottom corner of the ad (Chang & Yen, 2013).

Pictorial metaphor ads have sometimes been discussed as though they have one clear or unambiguous meaning and effect. However, do these ads always result in ad effectiveness (e.g., attitude toward the ad, attitude toward the brand, and behavioral intention)? A lot of the positive effects of ads containing metaphors are not free of comprehension costs. Consumers do not always comprehend all metaphorical meaning correctly and sometimes do not understand what the ad wants to convey to consumers. Metaphorical persuasion often concerns marketers and advertisers who worry about the possibility of misleading ads, or ads that result in misunderstanding. Ads that utilize pictorial metaphors may not always work under various conditions because consumers have to interpret the metaphors by themselves via their own abilities or through their own experiences. Consumers understand the ad messages communicated by pictorial metaphors through their own interpretive (or cognitive) process, and the interpreted meaning of the ad may differ among individuals or under various ad-conditions.

As one of the conditions, the types of headline, including no headline, may facilitate comprehension and have an influence on consumers' understanding and persuasion (Bergkvist, Eiderback, & Palombo, 2012; Philips, 2000) in metaphorical ads.

For example, some ads with pictorial metaphors employ a headline to help the recipients understand what the ad is trying to convey, whereas other ads do not use any headline copy in the ads (Bergkvist, Eiderback, & Palombo, 2012; Phillips, 2000). Phillips (2000) explored the effect of a headline copy on consumers' comprehension and attitude toward the ad with complex images. The study illustrated three levels of completeness of headlines: no headline (no copy), a moderate headline, and a complete headline, which are based on different amounts of verbal anchoring (including no copy) to a metaphorical image (Phillips, 2000). According to Phillips (2000), a moderate amount of verbal anchoring is "the headline that gives a clue to the ad's message" (p. 18). A complete verbal anchoring is "the headline that explicitly described the ad's message" (p. 18). In the case of the ad employed by complex images, headlines may increase comprehension of an ad because those might help explain the meaning of the ad by providing a clue to the meaning of the ad image (Phillips, 2000). However, the headlines decrease attitude toward the ad: that is, complete verbal anchoring causes a lower attitude toward the ad than non-headlines in the study (Phillips, 2000). The researcher just inferred that the reason might come from decreasing consumers' pleasure in decoding the meaning of the ad employed by complex images (Phillips, 2000) but the study did not investigate consumers' emotional responses.

When consumers are exposed to an ad employing different kinds of pictorial metaphors, with or without headlines, what are the changes in cognitive, affective, and intended behavioral responses? Do these lead to positive attitudes and behavioral intention in all conditions? In terms of the cognitive aspect, Need for Cognition (NFC)

illustrates the difference of the individual tendency to engage in and enjoy cognitive endeavors when people deal with tasks and social information (Cacioppo, Petty, & Kao, 1984). Therefore, in the current research, individual differences in consumers' level of NFC are further considered.

In addition to the individual differences in cognitive tendency, the current study considers the affective responses and the impact on the effect of ads as well. According to traditional studies and theories (Klauer, 1998; Klauer & Musch, 2001; Murphy & Zajonc, 1993; Zajonc, 1980), affect is considered to be post-cognitive and to occur only after considerable cognitive operations. At the same time, a number of experimental studies on preferences, attitudes, impression formation, and decision-making, as well as some clinical phenomena, showed that affective judgments may be fairly independent or may take precedence over perceptual and cognitive operations (Morris, Woo, & Singh, 2005). However, in the case of the ad with a pictorial metaphor, particularly an implicit metaphor, the cognitive process for the interpretation occurs first and then the emotional responses, such as pleasure or enjoyment, may be increased through creativity or novelty of the ad, by understanding (Sopory & Dillard, 2002).

Furthermore, according to the affective priming theory (Klauer, 1998), the affective responses may be transferred to the evaluation of the ad itself or the attitude toward the advertised product and the brand, which are the target of the metaphor. This unintentional influence of a first evaluative response to the metaphor ad on subsequent processing of the target (i.e., the attitude toward the ad or the brand) can be substantiated by affective priming theory (Klauer, 1998). Affective priming theory posits that the positive or negative evaluation of the previous stimulus transfers to the next

evaluation (Klauer, 1998). The affective responses influence the evaluation conditioning of the subsequent processing. It could be said that this leads to a more favorable attitude toward the ad and the brand, or that it is more likely to change the attitude or behavior intention positively if the metaphorical ad results in positive emotional responses.

Researchers have discovered extensive information that predicts consumer response to different types of verbal presentations, as well as how effective pictorial metaphors can be in several situations (DeRosia, 2008; Phillips, 2003; Rossiter & Percy, 1980; Zaltman, 2003). Although few empirical studies exist using a visual metaphor perspective and the interest in metaphor is increasing, the majority of research has been limited to linguistic metaphors, specifically focusing on verbal metaphors (Forceville, 1998). In addition, even empirical studies on metaphors in ads that do exist explore the effects of pictorial metaphors without examining the impact of the verbal copy apart from the visual image (McQuarrie & Mick, 1992). For example, McQuarrie and Mick (1992; 1999) found that ads with rhetorical images generate rich elaboration and more positive responses than similar ads without these images. However, they did not consider the differences in experimental ads with verbal headlines and the effects of verbal copy with visual metaphors simultaneously.

Pictorial metaphors are a favorite communication technique used by marketers and advertisers, and there is a steadily increasing usage in advertising (Chang & Yen, 2013; Phillips & McQuarrie, 2004). However, limited research has been conducted to identify the effect of typology of pictorial metaphors in advertising, including verbal aids, individual differences in cognitive responses and the role of emotional responses. Only

limited empirical research has been conducted to understand the extent to which the advertising variables in metaphoric ads influence consumers' attitudes and brand belief (Chang & Yen, 2013; Bergkvist, Eiderback, & Palombo, 2012). Unfortunately, there is still little consumer or marketing theory available for differentiating the benefits of pictorial metaphors. There is also little research on organizing the variety of imagery strategies on display in advertising (Malkewitz, Wright, & Friestad, 2003). Whereas extensive research has been carried out on other techniques and their importance to overall ad effects, relatively little is known about ads with pictorial metaphors (Delbaere, McQuarrie, & Phillips, 2011; Jeong, 2008).

Under what conditions are those ads that are the verbal/visual elements of metaphor most effective at reaching consumers? How do metaphorical ads affect their target audiences' behaviors and attitudes towards the advertised brands or products in affective and cognitive aspects under various conditions? In fact, the role of visual metaphors in ads is so widely accepted that researchers have largely neglected the possibility that moderating or mediating factors may exist that render visual metaphors more or less influential in the positive ad effectiveness.

To answer those questions and to identify the appropriate and effective ad conditions with metaphors to influence consumers' attitude and behavior changes, this research proposes to examine the effect of pictorial metaphors in ads with headlines in terms of cognitive and affective aspects. The current study will also consider the influences of the headline in ads and discuss one of the important motivational variables, such as need for cognition, as individual differences (Brennan & Bahn, 2006), which could influence audience comprehension of metaphors in ads (Morgan &

Reichert, 1999; Pawlowski, Badziski, & Mitchell, 1998), and the impact of consumers' emotions.

### **Purpose of Current Study**

Given the potential value of pictorial metaphors for advertisers and marketers, the current study tests and develops a theoretical explanation for the effects of such metaphors on consumer attitude towards the ads and the brands, and the purchase intention created by cognitive and affective perspectives considering the interrelationship between pictorial metaphors and headlines. Using mediation analysis, the study experimentally examines the mediating roles of consumers' affective responses to the metaphorical ads on ad effectiveness that employed the pictorial metaphors with or without headline support.

The purposes of this study are as follows: (1) to explore the impact of using pictorial metaphors with verbal elements in ads on consumers' attitudes and behavior intention, considering the level of need for cognition (NFC); and (2) to investigate how consumers' affective response to metaphor ads can mediate ad effectiveness (i.e., attitude toward the ad and the brand, and purchase intention) where metaphor types (e.g., implicit, explicit, and non-metaphor) and the types of headline copy (e.g., no headline and complete headline) are manipulated. This enables the researcher to better understand and explain how pictorial metaphors in ads influence attitude formation and behavioral intention in consumers while considering other variables. Consideration is given to the cognitive and affective responses of consumers with various pictorial metaphors and headlines for all types of products.

## **Significance of Current Study**

Amid a deluge of advertising and information, features of ads need to be differentiated from similar ads with which consumers are annoyed, especially because the market environment is gradually becoming more complicated and diverse. Accordingly, marketing managers and advertisers need advertisements that feature arresting images, create a totally new experience, are more impactful, and are easier to remember. They are always looking for good advertisements that stylishly assault a consumer's senses, thereby making it easier to change the consumer's attitude toward a brand and enhance their intention to purchase. Rhetorical figures, such as those encountered in metaphor, are often used to draw the attention of consumers and to improve their memory (Lutz & Lutz, 1977; Zaltman, 2003). Ads that use pictorial metaphors are more likely to stand out from the normal, cluttered viewing conditions (McQuarrie & Mick, 2002). Some studies, such as that by Jeong (2008), have found that metaphors (e.g., visual metaphors) may be more effective than non-metaphor or literal verbal arguments, but there has been no rigorous attention given to exploring whether these persuasive influences are the results of the pictorial metaphor styles (e.g., implicit/explicit metaphors) or argument modality (i.e., only with visual or with verbal). Research also needs to be conducted on how persuasive responses, resulting from the affective processing of metaphorical ads, have an influence on a consumer's attitude and behavioral intention.

Thus, the present study provides the opportunity to consider using different types of pictorial metaphors in ads as a method of visual thinking with a verbal element (i.e., headlines). Also examined is the persuasive impact of ads with visual metaphors on consumers' affective responses as well as on the ad/ brand attitude and purchase

intention. The investigation of the impact of pictorial metaphors on ad effects under various conditions, which has received attention but has had limited empirical testing, would provide both theoretical and practical implications for advertising scholars and practitioners.

From a theoretical perspective, application of pictorial metaphors would be theoretically extended by considering both the cognitive and affective aspects and by examining the interrelationship between visual metaphors and verbal elements in ads. The study attempts to show that visual metaphors enhance understanding of advertising messages, elicit consumers' emotional responses, and thereby positively affect the attitude toward ads, attitude toward brands, and purchase intention. The study also considers cognitive influences on the effectiveness of visual metaphors. Affective responses in metaphorical ads may have a crucial impact on ad effectiveness, while verbal elements in the metaphorical ads play a role in facilitating the interpretation of pictorial metaphors by consumers. Even though, with the assistance of headline copy, consumers completely understand the metaphorical meaning in the ad, if the ad with metaphors cannot finally evoke positive emotional responses (e.g., pleasure), there is no effect from using such metaphors.

From a managerial perspective, the results of this study enable advertisers to gain important practical insights into the use of visual (pictorial) metaphors with verbal elements. The study also helps marketers or advertisers decide whether a certain type of pictorial metaphor with verbal elements (i.e., headlines) creates more positive ad effects (e.g., understanding messages and more favorable emotional reactions), compared to other conditions (e.g., visual metaphors only or even non-metaphor). This

study also contributes to providing direction for the use of pictorial metaphors in ads, and for suggesting target groups of consumers for whom it would be appropriate to use pictorial metaphor with complex meaning in ads. The result would be the development of important empirical research not only for researchers but also for the practitioners who must decide if using such pictorial metaphors in ads would be effective.

The current study's findings will highlight the importance of the match between pictorial metaphor and headlines for ad effects by consumers' cognitive tendencies, considering the affective responses of target consumers. In addition, the findings of this research will provide a better understanding or knowledge of pictorial metaphor usage in ads and the effects they have on the attitude and behavioral intentions of consumers.

## CHAPTER 2 LITERATURE REVIEW

### **Definition and Characteristics of Metaphors**

A metaphor is one type of rhetorical figure or trope, a category that also includes irony, puns, and other literary devices (Phillips, 2003). McQuarrie and Mick (1999) have described metaphors as “one form of artful deviation from reality with the literally false but nonetheless illuminating equation of two different things” (p. 39). A metaphor is defined as “an artful deviation” from an expected concept and an invitation “to compare two ideas or objects and infer what they have in common” (Kim, Baek, & Choi, 2012 p. 77). De la Rosa (2009) defined metaphor as “a cognitive device which allows us to deal with abstract domains of experience by understanding and experiencing one thing in terms of another” (p. 167). In addition, Lakoff and Johnson (2003) described metaphors as “cross-domain comparison” (p.46). Metaphor is a rhetorical style comparing two dissimilar objects; the features of one object is transferred onto the other through the comparison (Sopory & Dillard, 2002) and interpreted as different from the original. Metaphor uses one object to represent another concept and helps the recipients understand complicated and unfamiliar notions (ideas) by using simple and familiar ones for illustration (Lakoff & Johnson, 1980; 1999).

Author James Geary (2011) explained that metaphorical thinking is an important way to understand ourselves and others, and the way that allows us to communicate, learn, and even create new ideas. Metaphor is one way to communicate no matter what words or images exist (Geary, 2011). Because metaphors are used in many kinds of field and sneak into our purchasing decisions, Geary (2011) asserted that voters, consumers, investors, and all should know the role of metaphors in our communications

and the effects that well-designed metaphors can have on decision-making. According to Geary (2011), people experience pleasure during the process of decoding metaphors, a process he refers to as "cognitive gymnastics." This phrase also allows us to comprehend the parallels between two dissimilar objects (i.e., the process of decoding metaphors and gymnastics).

Corbett (1990) defined metaphor as "an implied comparison between two different things of unlike nature that yet have something in common" (Corbett, 1990, p.444). When recipients fulfill the gap between two things, they probably need some minimum level of cognitive effort (Brennan & Bahn, 2006). The features of metaphors require recipients to be active interpreters of meaning. That is, recipients exert cognitive effort only when they are motivated and able to adequately interpret meaning.

A kind of chain of related abductive or cognitive processes (Brennan & Bahn, 2006) may be necessary to interpret the ad concepts or strategies. The cognitive processes of interpreting such metaphorical meaning can be expected to require devoted cognitive effort. Several researchers (e.g., Brennan & Bahn, 2006) have asserted that motivation is a necessary antecedent of cognitive effort to interpret meaning. According to the study by Brennan and Bahn (2006), decoding metaphor meaning or extended visual/verbal metaphors requires the use of extensive cognition. The recipient has a high need for cognition in order to interpret a metaphorical meaning, and individuals with a high-need for cognition are better able to interpret it.

The equation format for metaphors is very simple. That is "A is B." It is the linguistic comparison of the form. For example, the expression "an apple in the morning is gold" consists of two parts A (an apple in the morning) and B (gold). A and B compare

two different ideas and are inferred by what they have in common (Kim, Baek, & Choi, 2012). Examples of basic conceptual metaphors include (Lakoff & Johnson, 2003):

- Life is a journey
- Home is paradise
- Her lips are a volcano
- Social organizations are plants
- Love is magic

For example, a piece of literature might use a metaphor by stating that life is a journey; it compares life to a journey to infer that the two concepts have something in common.

### **Metaphors in Advertising**

Metaphor can be visual or verbal. We can find innumerable usages of verbal metaphors in literatures and lyrics. As mentioned before, Shakespeare is considered one of the most famous masters of metaphor in literature. Metaphors are frequently used in such areas as modern pop music. We can easily access examples of metaphors in musicians' lyrics, such as those of Elvis Presley. Presley was so successful at this endeavor that he could be considered a metaphor himself.

Previous research on metaphors has primarily focused on the verbal component. Researchers have seldom attempted to study metaphors in relation to their non-verbal expressions. Among those who have explored this area, Forcevill (1998) has done extensive research into the use of pictorial metaphors in advertising, comparing them with non-metaphors. In external appearance, one of the typical characteristics in modern advertising is the reliance on visuals for attractive attention and persuasive communication (Phillips & McQuarrie 2003). Furthermore, the level of dependence on pictorial metaphors in modern advertising has increased (Phillips & McQuarrie 2003).

An “indirect metaphorical claim” (McQuarrie & Phillips, 2005, p.7) presented in an image can have a further advantage because such inferences are more likely to be generated spontaneously at the time of ad exposure (McQuarrie & Phillips, 2005).

The current study focuses on visual (i.e., pictorial) metaphors in ads. Gkiouzevas and Hogg (2011) presented a conceptual framework for pictorial metaphors in advertising, based on whether visual information in the ad is synthesized or juxtaposed. The framework for pictorial metaphors included a structural and conceptual investigation that systematically categorizes the different patterns of representational discordance found in pictorial metaphors. In their study, Gkiouzevas and Hogg (2011) categorize the forms of visual metaphors with reference to two dimensions: first, the objects’ *mode of representation* (i.e., juxtaposition and synthesis), and second, the *visual scenarios* (i.e., realistic symbiosis, replacement, and artificial symbiosis).

Chang and Yen (2013) have specified that visual metaphors exist in two categories: implicit and explicit metaphors, depending on whether the advertised product is included in the metaphorical illustration of the ad or not. An advertised product is not expressed or integrated into the main (metaphoric) images in an ad consisting of implicit visual metaphors. In contrast, an explicit metaphor shows the product directly in the metaphoric illustration of ads. The current study uses the conceptual framework of Chang and Yen’s study (2013) for pictorial metaphors (i.e., implicit and explicit pictorial metaphors). The construct of distinguishing implicit or explicit metaphors is the ability to make an inference. It is the ability to infer from a metaphor what has been communicated, i.e., what the exact meaning is.

Since metaphors are often used in all kinds of communications, it can easily be surmised that the impact of metaphor is powerful and effective, particularly in communication. Metaphors have been applied to ads for a long time to incorporate more meaning and to convey complex messages in advertising and marketing communication (Boozer, Wyld, & Grant, 1991; Phillips, 2003). Metaphors in advertising obviously draw attention away from the clutter of typical advertisements and persuade consumers in unique ways (Phillips, 2003). The positive impact of metaphors can be illustrated with respect to attitude change and memory outcomes (McQuarrie & Mick, 2003a). According to Gkiouzepas and Hogg's (2011) study, if this study simply compares and juxtaposes metaphorical objects with ad visuals that synthesize conceptually similar metaphorical objects, the ad visual elements provoke greater elaboration and elicit more favorable consumer attitudes toward both the ad and the brand. Previous research leads to the following hypothesis:

**H1:** The effect of using visual metaphors in an ad will have a more favorable influence on (a) attitude towards the ad, (b) attitude towards the brand, and (c) purchase intention, than will a non-metaphor ad.

### **Verbal and Visual Elements of Ads**

Ads generally consist of two elements – images as visual elements and headline copy as verbal. One of the interesting studies on the effect of verbal and visual stimuli in communication is Sojka and Giese's (2006) study, which investigated ad effects in terms of responses to a visual, a verbal, and a combination of visual/verbal stimulus. Their exploratory study shows that individuals who have high affective processes respond more favorably to a visual ad than the other groups, and individuals who are high in both affect and cognition (i.e., individuals with combined processes) respond more favorably to a combination visual/verbal ad (Sojka & Giese, 2006).

According to Lutz and Lutz (1977, p.71), imagery is “a mental event involving visualization of a concept or relationship.” Mental images have the potential to be more personally relevant because they are anchored in the person’s experience base and generated by their own mental processes (Lutz & Lutz, 1977). Imagery has multiple channels of information processing and therefore a greater possibility to enhance advertising effectiveness (Lutz & Lutz, 1977).

Affect and cognition, however, do work together as well as independently in ads. Empirical and theoretical research has shown that individuals who appear to be high in affective processing styles would neglect the verbal elements in the ad and pay more attention to the visual elements, whereas individuals who tend to have high cognitive processing would overlook the visual elements in the ad and focus more on the verbal (Sojka & Giese, 2006).

Sojka and Giese (2006) explored the processing of two different advertising stimuli – visual and verbal. They investigated the interrelationship between visual and verbal stimuli, comparing these ads to different groups identified as having affective or cognitive disposition. Interestingly, Sojka and Giese (2006) wove individuals who have an affective tendency and visual information about advertising into their study. However, not all advertising is produced with strictly visual content; therefore, they investigated individuals who have a tendency to respond to cognitive and verbal information as well.

A lot of researchers have investigated the interwoven studies with the predisposition for affective tendency and a preference for visual stimuli, and with the cognitive tendency and a preference for verbal stimuli (Martin, Sherrard, & Wentzel, 2005; Sojka & Giese, 2006, 2001; Venkatraman, Marlino, Kardes, & Sklar, 1990). In

addition, consistent with the study by Cacioppo and Petty (1982), individuals with a high need for cognition and low affective tendency generally prefer to respond to verbal, factual information, while individuals with a high affective tendency and low cognition usually rely on emotion to make decisions and respond more positively to visual information (Childers, Houston, & Heckler, 1985; Richardson, 1977; Sojka & Giese 2006). In addition, a goal-directed paradigm (Ressler, 2004) illustrates that humans are motivated by pleasure rewards. For example, dealing with pictures is more pleasurable than with words for people with predisposition for affect. Consequently, those people will process the visual elements and overlook the verbal elements in the ad.

Various researchers have established the concept that some individuals prefer visual information and other individuals prefer verbal information (Childers, Houston, & Heckler, 1985; Richardson, 1977). Furthermore, other researchers found connections between people who have a more affective tendency and a stated preference for visual stimuli, and between people who have a more cognitive tendency and a preference for verbal stimuli (Martin, Sherrard, & Wentzel, 2005; Sojka & Giese, 2001; Venkatraman, Marlino, Kardes, & Sklar, 1990). The study of Sojka and Giese (2006) suggests that images differ from words in the theoretical conceptualizations of information processing. In addition, they assert that in the processing of visual stimuli and affect, individuals who tend to be more affective would respond more positively to visual information than individuals who tend to be more cognitive (Sojka & Giese, 2006). Visual thinking, therefore, may handle abstract concepts, including metaphor, more easily than verbal thinking for individuals who tend to be affective.

## **Pictorial Metaphor and Headline**

Visual (i.e., pictorial) metaphors place or combine two contrasting images together, often without accompanying verbal explanations. The pictorial metaphors, therefore, tend to be more implicit and complex than verbal metaphors and can lead viewers to imagine several possible interpretations (Jeong 2008; McQuarrie & Mick 1996; Phillips 2000). Because metaphors are persuasion based on messages, they need conceptual interpretation. If an ad employs less-related metaphors in the visual image and has no headlines, consumers require more cognitive effort and knowledge of the context to interpret and understand the ads. Mitchell and Olson (1981) explained that pictorial metaphors might be more effective than literal, verbal arguments in terms of persuasive outcomes.

Philips and McQuarrie (2009) asserted that metaphors are used to communicate concrete information on consumer beliefs, and that similar contexts can help people understand more abstract and different domains. In addition, verbal metaphorical claims in ads create further enjoyable advantages, and the effect of the metaphor may influence the attitude toward the ad or brand (Philips & McQuarrie 2009). Visual rhetorical figures such as trope (e.g., visual metaphor and pun) and scheme (e.g., visual rhyme and antithesis) generate a large amount of cognitive activity (i.e., elaboration) and result in a positive impact on consumer response (McQuarrie & Mick 1999), without being any more difficult to understand. If rhetorical figures appear insightful, they may instill a pleasurable response (Ward and Gaidis 1990).

Some researchers classified the types of headlines in ads depending on the levels of completeness of those headlines (i.e., the amount of verbal anchoring added to an image) such as no headline, a moderate headline, or a complete headline (Bergkvist,

Eiderback, & Palombo, 2012; Philips, 2000). According to the results of Philips' study (2000), the effect of a higher level of headline completeness has a positive impact on the comprehension of the ads because headlines provide a clue to the meaning of a pictorial metaphor and this facilitates increasing comprehension. When ads with pictorial metaphors are designed with a headline, the types of headlines lead to different results in emotional effects depending on the degree of understanding (Philips, 2000). The higher the level of completeness a headline has, the more comprehension it generates, even though this high level of completeness results in less pleasure (Philips, 2000). Furthermore, Bergkvist, Eiderback, and Palombo (2012) suggest that the use of a complete headline in metaphorical ads results in more positive effect on brand communications such as brand beliefs about the key benefit. In line with results of the study by Phillips (2000), the idea that headlines have a positive effect on attitude toward ads and brands is also supported (Bergkvist, Eiderback, & Palombo, 2012).

As previously mentioned, some researchers (e.g., McQuarrie & Phillips, 2005; Phillips, 2000) examined the effects of headlines on ads with pictorial metaphors or on literal (straight) ads. However, they did not examine the effect that adding headlines to different types of pictorial metaphors would have on perception. When headlines are added, there will be differences of effort in understanding the ad messages according to the types of pictorial metaphors, and different effects will be generated from the ads. In addition, Bergkvist, Eiderback and Palombo (2012) examined the effects of headlines in metaphorical ads using one type of metaphor as the stimuli in their study. They theorized that the use of headlines in metaphorical ads brings about a positive effect on brand communications such as brand beliefs.

The research question on the interaction of pictorial metaphors and verbal copy in advertisements leads to the following hypothesis:

**H2:** Under conditions in which implicit metaphorical images are employed in ads, directly illustrated headlines (=completeness) will have a more positive impact on the ad effects (i.e., (a) attitude toward the ad, (b) the brand, and (c) purchase intention) than no-headline, while no significant difference is expected in explicit metaphorical ads.

### **Theories of Metaphor Comprehension**

In order to explain the way in which metaphors in ads stimulate positive influences on consumers, it is necessary to describe the theories that increase understanding about the perspective impact of metaphor. Sopory and Dillard (2002) applied the literal-primacy view as a theory that is especially relevant. Even though the claims in the study are from the perspective of verbal metaphorical ads, such theories may explain how the responses develop when metaphors are decoded and interpreted. Among them, the literal-primacy view (Beardsley, 1962, 1976; MacCormac, 1985) regards metaphor as literally false or exceptional language. Metaphor are therefore seen as semantic anomalies and they can easily be described by definitions such as “artful deviation” (McQuarrie & Mick, 1999). According to the literal-primacy view, the process of understanding metaphors requires three stages: (1) Development of a method to find the literal meaning of a metaphor; (2) testing whether the literal meaning makes sense and finding an anomaly or a violation of semantic rules; and (3) seeking an alternative meaning (i.e., the metaphorical meaning) if the literal meaning does not make sense (Gibbs, 1994; Sopory & Dillard, 2002). For example, when the consumer finds that there is an anomaly or an expression that is literally false, cognitive tension is created, along with a desire to reduce it. When the meaning of the literally false

expression is decoded, the “artful deviation” (McQuarrie & Mick, 1999) is resolved for the interpreter, and the tension is reduced or disappears.

When consumers confront the visually false expression (i.e., anomaly) in ads, the consumers’ cognitive effort to decode pictorial metaphors with (or without) headlines could be indicated by relevance theory (Sperber & Wilson, 1995, 2004). Relevance theory, proposed by figurative language scholars Sperber and Wilson (1995), argues that the receivers seek and find the meaning that fits their expectations of relevance.

According to scholars of language, there are two ways to explain how ideas or abstract concepts are communicated. First, people communicate by the process of coding and decoding. In this way, the author or advertiser encodes their intended ideas and conveys them to their receivers or targets. The receivers take the encoded message and decode it to get the meaning the author or advertiser intended. In this approach, the receivers almost always employ context in communication. Other factors considered by the receivers include contemporary issues, and the author’s or advertiser’s intentions. Second, thoughts or ideas in communication are transferred to receivers by the author or advertiser. In this case, they may convey only as much information as needed for the given context, and then the final steps depend on the receivers. Receivers can interpret the intention or meaning from the communication itself as well as from the context and implications. This conceptual process shows how the author or communicator uses the context of the communication and demonstrates how the cognitive environment between the author/advertiser and the consumer develops.

According to Sperber & Wilson (2004), the communicative principle of relevance is the core of relevance theory. The relevance theory states that when a speaker says what he/she wants to convey, the act of making an utterance will provide cognitive effects of processing effort to find the meaning. In this way, when speakers make an utterance, every ostensive act of communication, such as the lexical clues or visual clues, shows something. Sperber & Wilson (2004) illustrated the process to find the meaning with two general processes. First, the speaker intentionally gives a clue to the audience in order to convey exactly what he/she wants to communicate. That would be an ostensive act. Second, the audience or the receiver infers the intention from the clue and other context information. Then, the audience seeks meaning and interprets the meaning with the clue and context in any given communication situation.

According to relevance theory, in explicit metaphor in advertising, the advertised product could be the ostensible stimulus, which provides the relevance with the ad in metaphorical images. If a metaphorical ad does not provide the ostensible stimulus (or a clue) to receivers, it needs more effort to find the meaning. People with low NFC (that is, individuals who have low cognitive effort tendency) might fail to decode and understand the meaning/ intention of the ad. Without the ability to convey the meaning of the ad to receivers or consumers, the ad is not successful.

### **Individual Differences in Cognitive Motivation**

Research on persuasion has demonstrated the importance of understanding such cognitive processes (e.g., Petty & Cacioppo 1986). The level of cognitive elaboration is a critical variable in producing attitude changes for consumers (Batra & Stayman, 1990), which leads to the ad effects. The cognitive tendency of receivers has received more consideration in metaphor research than any other type of antecedents

because receivers need such cognitive efforts to interpret and comprehend the message of the ads, which then leads to the ad effects. According to the study of Pawlowski, Badzinski, and Mitchell (1998), when children were exposed to advertisements containing metaphors and were asked to interpret them, the higher-grade children were better at interpreting metaphors than children in lower grades. It would be fair to say that the ability of interpretation on metaphors is related to the development of cognitive ability.

Need for cognition is defined as “the statistical tendency of and intrinsic enjoyment individuals derive from engaging in effortful information processing” (Petty & Cacioppo 1986, p. 48). Researchers have long known that there are differences among individuals in their tendency to think and how they enjoy thinking. Studies of cognition have focused on the nature of knowledge and the character of the processes being understood and being used with the knowledge. Cohen, Stotland, and Wolfe (1957) illustrated the need for cognition as “a need to structure relevant situations in meaningful, integrated ways.” They also postulated that the obtainable tension would produce “active efforts to structure the situation and increase understanding.” Cohen’s own study (1957) reported that people with a high need for cognition are more likely to arrange, make detailed analyses, and assess or criticize the information, as opposed to people with low NFC.

According to Cohen’s study (1957), individuals who have high NFC are easily motivated to think about communication, whereas individuals who have low NFC need to be motivated to think about communication by clearly establishing the problem. Cacioppo and Petty (1982) also asserted that individuals who have high NFC should

prefer the complex (that is, the cognitively demanding) to the simple version, whereas individuals with low NFC should prefer the simple to the complex version of the cognitive task.

In this respect, previous research has explored the processing of two different advertising stimuli (e.g., visual vs. verbal) and further investigated the role of affect and cognition in processing visual and verbal stimuli (Sojka & Giese, 2006). People with a high NFC who have strong cognitive tendencies to engage in effortful information processing are likely to prefer rational data and rely on logical thoughts when solving problems or making decisions (Cacioppo & Petty, 1982; Sojka & Giese, 2006). In the study of Sojka and Giese (2006), people with a high NFC prefer verbal stimuli more than affective people, who have a more affective tendency and enjoy the problem-solving process presented in verbal stimuli, unlike people with low NFC. Petty, Cacioppo, and Schumann (1983) suggested that individuals with high NFC have been observed to perform better at cognitive jobs such as calculation and solving anagrams than do individuals with low NFC. As opposed to those with high NFC, individuals with low NFC were influenced more by peripheral cues (Petty, Cacioppo, & Schumann, 1983). Individuals with high NFC were more likely to be persuaded by the quality of arguments (Petty, Cacioppo, & Schumann, 1983). Peripheral cues which are well known, such as color or celebrity endorsements, may be more likely to be conveyed in a visual format than a verbal format (Petty & Cacioppo, 1986).

The findings of Sojka and Giese's study (2006) showed that individuals with high NFC elicit more pleasure from processing words than images, and, as a result, they will pay more attention to the verbal elements in an ad. Considering this particular study as

the basis for my research, I could further explore the interaction between the types of metaphors as visual stimuli, and headlines as verbal stimuli, in individual differences with NFC and affective processing.

Prior research has investigated whether adding a headline to ads explains the visual image results of a reduced favorable impression. The headline may actually take away from the ad's message, thereby decreasing the enjoyment for receivers to interpret the ad by themselves (Phillips, 2000). However, the current study asserts that the result of Phillips' study (2000) could be different and will further investigate the ad effects depending on the type of pictorial metaphors in ads and the receivers' level of NFC. In the case of implicit visual metaphors, adding a headline to ads will lead to stronger impacts for the receivers which will cause them to develop more favorable attitudes toward the ad through understanding of the metaphorical meaning.

Under the ad conditions in which implicit metaphorical images without any headline are employed, the ad will have a more positive impact on the attitudes towards the ad, brand, and purchase intention of consumers with high NFC than those with low NFC. Based on explicit metaphors, under the condition where there is an explicit pictorial metaphor without any headline in the ad, consumers with high NFC will show more positive responses than those with low NFC in their attitudes towards the ad, brand, and purchase intention.

As a result, for consumers with high NFC, when the ad does not have any headline, there would likely be no significant difference in impact between the ad with implicit and explicit pictorial metaphors on ad effects: attitude toward the ad, attitude toward the brand, and purchase intention. For consumers with low NFC, when an ad

has a headline that is directly illustrated (i.e., a complete headline), there would likely be no statistically significant difference in impact between the ad with implicit and explicit pictorial metaphors on ad effects: attitude toward the ad, attitude toward the brand, and purchase intention.

For consumers with high NFC, under ad conditions where pictorial images have headlines, the ad employed with implicit metaphors is more likely to reflect a favorable impact on the attitudes towards the ad, the brand, and purchase intention. In those conditions, consumers need more cognitive effort to elaborate the implicit metaphorical ad. According to a study by Kim, Baek, and Choi (2012), the level of metaphor-elicited cognitive elaboration had a significant effect on attitudes toward the advertiser. For the consumers with low NFC, if there was no headline copy in the ad, and the ad employed implicit metaphors, the consumers would not be motivated to draw conclusions or meaning.

Based on the theoretical framework and the literature review, the foregoing discussion leads to the formulation of the following hypotheses for the current study:

**H3-1:** For consumers with high NFC, when a headline directly illustrated the ad (i.e., a complete headline), those with implicit pictorial metaphors create more positive responses than the ads with explicit pictorial metaphors and a complete headline have on ad effects including: (a) attitude toward the ad, (b) attitude toward the brand, and (c) purchase intention.

**H3-2:** For consumers with low NFC, when a headline directly illustrated the ad (i.e., a complete headline), the ad with explicit pictorial metaphors enables a more favorable impact than the ad with implicit pictorial metaphors on ad effects including: (a) attitude toward the ad, (b) attitude toward the brand, and (c) purchase intention.

**H3-3:** For consumers with high NFC, when there is no headline, the ad with implicit pictorial metaphors enables a more favorable impact than the ad with explicit pictorial metaphors on the following ad effects: (a) attitude toward the ad, (b) attitude toward the brand, and (c) purchase intention.

**H3-4:** For consumers with low NFC, when the ad does not have any headline, the ad with explicit pictorial metaphors enables a more favorable impact than the ad with implicit pictorial metaphors on the following ad effects: (a) attitude toward the ad, (b) attitude toward the brand, and (c) purchase intention.

### **Cognitive and Affective Responses on Metaphors**

Metaphors inspire human emotions and promote central thought (Phillips, 2003).

That is, pictorial metaphors require cognitive effort to be understood and then, once understood, to evoke positive or negative emotional responses. People who have either more or less cognitive tendency will evaluate the visual or verbal components of a metaphorical ad differently. The resulting effects from metaphorical ads may be that each group with different tendencies will express different attitudes (Sojka & Giese, 2006).

The use of pictorial metaphors in ads is imperative and effective in persuading consumers to appreciate what the ads want to convey (Jeong, 2008; McQuarrie & Phillips, 2005; Sopory & Dillard, 2002). Metaphors in communication generate their own story (Fairhurst & Sarr, 1996; Lakoff & Johnson, 2003), which should be interpreted by audiences, create uncertainty, elicit pleasure from novelty, lead to credibility, and enhance engagement with the ad messages through the metaphorical content (Jeong, 2008; Sopory & Dillard, 2002; Ward & Gaidis 1990; Zaltman, 2003). Pictorial metaphors are considered most pleasurable if they are perceived as appropriate and insightful (Ward & Gaidis 1990).

The reason for the impact of metaphors might be found in cognitive and affective processes and responses. Researchers found that using metaphors results in a powerful, persuasive tool for developing the novelty that influences consumers'

decision-making and memory (Jeong, 2008; McQuarrie & Mick, 1999; Zaltman, 2003). Metaphors are also an effective way to help bring people unexpected thoughts and feelings that result in novelty experiences (Jeong, 2008; Zaltman, 2003). As a result of these processes, the use of metaphors may result in pleasurable feelings or even in feelings of joy (Sopory & Dillard, 2002; Zaltman, 2003). Therefore, the use of metaphors in ads is effective in creating more positive attitudes and behaviors and helping people to comprehend meaning more deeply by fostering engagement with the ad message. Furthermore, metaphors have a positive influence on memory (Jeong, 2008; McQuarrie & Mick, 1999; Zaltman, 2003).

However, even though metaphors have positive attributes, they might not always persuade consumers. The effects of metaphors might be varied by means of different contexts, product categories, product knowledge, brand familiarity (Sopory & Dillard, 2002), or cultural competency (McQuarrie & Mick, 1999). As consumers attempt to understand the ad message presented in metaphors, they will use cognitive processing created by their own specific experiences and these interpretations may differ depending on various conditions in the ads.

Compared to literal argument, metaphors in ads are more effective in persuasion (Mitchell & Olson, 1981). The effectiveness of metaphorical rhetoric, compared to literal arguments, was illustrated by three categories – cognitive, affective, and motivational processes (Jeong, 2003). The persuasive effects of metaphors are influenced by affective processes and motivational processes (Sopory & Dillard, 2002). Using metaphors may result in pleasure as a relief from cognitive tensions, which may result in positive responses towards the ads and brands (Jeong, 2008; Sopory & Dillard, 2002).

The important role of affective or motivational processes in persuasion can be explained via the elaboration likelihood model (ELM) and information processing (Petty & Cacioppo, 1986). Although images are considered heuristic cues and cause peripheral or heuristic modes of processing by the elaboration likelihood model (ELM), pictorial metaphors are central to the message argument and may cause systematic modes and cognitive processing (Jeong 2008; Petty, Unnava, & Strathman 1991). Metaphors, one of the essential tools for message-based persuasion, play a central role in our communications (Lakoff & Johnson, 2003).

### **Affective Perspectives on Metaphors**

In the process of being persuaded by metaphors, Sopory and Dillard (2002) described two strands of the “pleasure and relief” view. These two strands demonstrate that we can recognize a semantic anomaly in a metaphorical expression and this can lead to negative tension (Bowers & Osborn, 1966; Sopory & Dillard, 2002). When the meaning of metaphor is finally understood, the negative tension is relieved. The process has three stages: perception of error (or novelty), the use of conflict (or recoil), and finally a resolution to the ad’s connotation (or problem-solving) (Sopory & Dillard, 2002). The first strand is illustrated when people resolve the meaning of metaphors and thus find “unexpected similarities.” As a result, they may feel pleasure or enjoy pleasurable experiences. In the second strand, when the recipients find the metaphorical meaning, negative tension is dissipated and this turns out to bring relief. The feeling of pleasure or relief encourages recipients in reinforcement of the metaphorical meaning and the evaluation (Sopory & Dillard, 2002). The feeling of pleasure or relief compensates for the negative tension. That is, the dissipation of negative tension used in the process of decoding metaphorical expression can be used to reinforce meaning. This evaluation

not only encourages engagement, but also increases persuasion and recall (Sopory & Dillard, 2002).

### **Affective Perspectives on Persuasion**

According to some previous research, feelings (or emotions) occur immediately, and then, cognition arises (Murphy & Zajonc, 1993; Zajonc, 1980). Zajonc (1980) argued that affective responses such as “like-dislike,” “good-bad,” reflect the prior cognitive process. Klauer (1998) claimed that spontaneously affective evaluation precedes cognitive analysis of the stimulus. Zajonc (1980) asserted that affective reactions are inescapable and primary processes in advertising and affective judgments are structured around the advertising context. Affective responses from incoming information pre-categorize the stimulus for the recipient before a decision is made about criteria features and affective reactions that influence discrimination among stimuli (Zajonc, 1980).

In contrast, several contemporary scholars in psychology consider the process of responses as the move from cognition to affect (i.e., emotion) (Lazarus, 1982). Before automatic and unconscious evaluation of any received stimulus is labeled as liked or disliked, people have to have some information, knowledge, or experience about it and they have to at least have identified the features or the discriminated value. Therefore, some theorists believe that affect is a result of cognitive processing of the incoming information (Lazarus, 1982). They believe that affective responses occur as a result of prior evaluation for the information such as an event or stimulus that was encoded, discriminated and identified for its critical feature or value. In the case of an ad that uses pictorial metaphors without headlines, we would consider the framework one in which

cognitive processing occurs prior to affective reactions in order to for information about the ad to be decoded.

Some controversy still remains about what is perceived as the primary process. It seems it depends on each event, situation, or the kind of stimuli. Researchers assert that affect and cognitive processing cannot be considered separately (Lerner & Keltner, 2000). In some cases, initial emotional responses produce ideas or perception, and then the ideas or the perception produce further affect (Lerner & Keltner, 2000). Therefore, it is difficult to determine the dominance and primacy of these two processes (i.e., cognitive and affective processing) even though they are clearly two different forms of conscious or unconscious processes.

The research of Morris, Woo, Geason, and Kim (2002) shows that cognition and affect are interdependent. They found that affect dominates over cognition for predicting conative attitude and action, and the emotional reactions are strongly predictive of behavioral intention (Morris et al., 2002). In addition, Morris et al. (2002) assert that affect accounts for almost twice the variance towards conative attitude, and emotional response is a powerful predictor of behavioral intention and brand attitude.

Researchers have long known that consumers in positive moods assess incoming information more positively (Batra & Stayman, 1990; Isen & Simmonds, 1978). Some studies have even determined that such positive moods incline consumers to accept perceived messages (Mackie & Worth, 1989; Worth & Mackie, 1987). Many researchers who study persuasive habits have illustrated that positive emotion may be provoked by ads and a positive mood facilitates consumers' attitudinal change toward a brand (Batra & Stayman, 1990; Batra & Ray, 1986; Edell & Burke, 1987). According to

Morris, Woo, and Singh (2005), content processing (i.e., content elaboration) gives rise to emotions and this leads to a longer lasting change in attitudes. Emotions (or mood) in a person may work on the peripheral or heuristic processes (Forgas & Bower, 1987) because they are expected to require relatively less effort to evoke the process and because they produce a reaction in a straightforward fashion (Petty & Cacioppo, 1986).

In addition to such peripheral processes, research suggests that positive emotions also influence message acceptance (Mackie & Worth, 1989). That is, individuals in positive moods perceive and evaluate stimuli more favorably than those in negative moods (Isen & Simmonds, 1978). Batra and Stayman's finding (1990) is that emotions (i.e., positive moods evoked by ads) can influence the amount of total cognitive elaboration under various conditions of argument quality and need for cognition. The research of Batra and Stayman (1990) has shown that positive moods indirectly influence attitudes through two cognitive processes. One is that a bias against the generation of negative evaluation or thoughts leads to a more favorable evaluation of message arguments. Second, cognitive process involves a reduction in total cognitive elaboration, making the processing more heuristic rather than systematic (Batra & Stayman, 1990). Research has demonstrated that attitudes can be modified by interaction between initially neutral objects and affect-producing forms of stimuli such as unpleasant odors, high or low temperatures, pleasant pictures, elating versus depressing films, and others. The direct association of "affect" with positive or negative objects, issues, or conditions is a primitive form of attitude change, but one which has proven effective.

## **Affective Priming Effect**

There are a number of priming studies that have been adapted from cognitive psychology to the study of evaluative processes. These priming studies in previous literature have employed polarized stimuli with strong positive and negative evaluations. Because the role of the evaluative response is very important in the cognitive field, many lines of research have explored the characteristics, antecedents, and environments of the evaluative process. Emotions generally include positive or negative evaluations (Ortony & Turner, 1990), so theories of emotion have considered the evaluation as a central concept (Hermans, 1996; Klauer, 1998). In the same vein, cognitive appraisal models of emotion (Lazarus, 1991; Scherer, 1988; Klauer, 1998) postulate that the incoming stimuli become spontaneously positive or negative very quickly during the initial state of forming emotion.

Affective priming effect is the one of the theories of affective influences on judgement and choice (Klauer, 1998; Klauer & Musch, 2001; Murphy & Zajonc, 1993; Musch & Klauer, 2003; Steinbeis & Koelsch, 2010). There are typically two stimuli in affective priming: prime and target stimulus. The prime stimulus that is an affectively valenced one is followed by an affectively valenced target stimulus. In other words, an affectively valenced (i.e., pleasant or unpleasant) prime stimulus is presented, followed by an affectively valenced target stimulus. The affective priming paradigm can be explained as a function of the evaluative response. Affective priming illustrates whether the evaluation of the prime stimulus (i.e., a first stimulus) has an impact on the processing of subsequent stimuli (i.e., the targets) (Klauer, 1998). The findings of the studies on affective priming effect shows that prior affective valences such as like or dislike, pleasure or displeasure, from the preceding prime stimulus, have influence on

affective target processing, either by assisting consistent target processing or suspending inconsistent target processing (Musch & Klauer, 2003; Steinbier & Koelsch, 2010).

In the classical conditioning of evaluations and attitudes (so-called attitude conditioning, Staats & Staats, 1957, 1958; evaluative conditioning, Martin & Levey, 1978), affective priming explains the acquisition of evaluations and attitudes. If a positive or negative stimulus (e.g., a positive or negative word) is evaluated spontaneously, then a neutral stimulus (e.g., a nonsense syllable) should be able to be influenced by the evaluative response. More recently, researchers have shown that the affective priming effect results in a positive response when the stimulus is shown under conditions that inhibit recognition of their appearance (Murphy & Zajonc, 1993). Thus, research outlined by some authors revealed that awareness of the affect-arousing stimulus is not necessary for evaluative conditioning (Klauer, 1998; Martin & Levey, 1978; Murphy & Zajonc, 1993). As mentioned, previous research has already shown that consumers who process an ad in a more positive mood develop a more positive attitude toward a brand (Batra & Stayman, 1990).

We can consider the affective priming from the ELM. People are often exposed to affect-inducing positive or negative material (e.g., pictures) before they are directly faced with the target stimulus. This affective priming process has been successfully established as modifying attitudes. For example, several research studies have shown that if a participant is asked to rate a target person who is performing an ordinary activity of daily life after they have been subliminally presented with positive photos (e.g., a group of smiling friends), they rate the target person more positively than if they

are exposed to negative photos (Krosnick, Betz, Jussim, & Lynn, 1992). According to Murphy and Zajonc (1993), the effectiveness of affective priming processing may be different in different cases where primes are presented both subliminally or visibly. In other words, if positive and negative affective primes, such as smiling or frowning faces, were shown just before a particular target stimulus, attitude toward the target were influenced by the primes presented outside of conscious awareness. Yet, this does not happen when these primes are presented visibly (Murphy, Monahan, & Zajonc 1995). Researchers believe that one of the possible reasons for such an effect might be that directly flagrant priming stimuli are perceived as definitely irrelevant to understanding the target. Thus, a visibly presented priming might prevent the participant from developing responses based on the emotional primes (Martin et al., 1990; Petty & Wegener, 1993). In this regard, metaphorical ads are indirect expressions of the key and abstract benefits of the advertised product.

The research on affect association contends that such affective processes allow for an impact on attitudes toward objects, but this occurs only when the objects have low significance. When consumers have little or no knowledge about the objects, there are low opportunities for appreciating the importance affect (Zajonc, 1998). However, this does not create the conclusion that it is imperative that elaborating attitude-relevant information remains low in order to influence attitudes in affective processes. Affect can also modify attitudes even when the likelihood of elaboration is high.

Affective priming is a concept for the emotions that suggests the contagion of affects, which is an important characteristic of contiguity theory that comes up in conditioning and association learning. According to Zillmann (1991), this additive

emotional reaction (i.e., excitation) is not recognized by the subject when it occurs. The excitation-transfer paradigm (Bryant & Miron, 2003) also illustrates the affective phenomenon that the feeling of arousal provokes when previous stimulus is transferred to excitation that occurred by a consecutive stimulus. (Gilbert, Fiske, & Lindzey, 1998).

As previously mentioned, when the metaphorical meaning employed in ads is understood, the expected emotion that may occur is pleasurable or joyful. Among the emotional responses from metaphorical ads, the current study focuses on pleasure dimensions in PAD theory (Mehrabian & Russell, 1974). Receivers can sense those entertainments at the moment they decode or interpret the meaning that the metaphorical ad tries to convey. Therefore, the excitation transfer theory (Bryant & Miron, 2003) can also demonstrate the positive emotional transfer to the target or to the next stimuli (Bryant & Miron, 2003; Zillmann, 2006).

### **Mediated Effect by Emotional Responses**

Just as other studies focused on emotional responses to advertising, Holbrook and Batra (1987) investigated the role of emotions to attitude toward ad and brand. They asserted that emotional responses of consumers mediate the effects of advertising in their model of advertising effects by path analysis (Holbrook & Batra, 1987). The results indicated that emotions represented a mediating relationship between ad content and attitude toward the ad or the brand (Holbrook & Batra, 1987). Based on their study, the metaphorical ad would also be one kind of advertising content and there might be intervening roles of emotion in mediating the relationship between the metaphor content of the ad and the attitudes. In other words, the emotions would mediate the effects of ad content on attitudes.

Metaphors not only arouse cognitive processes, but they also provoke affective responses (Sopory & Dillard, 2002). The process of decoding metaphor can be a rewarding experience for consumers. Pleasure is the most commonly anticipated emotional response from rhetorical figures (DeRosia, 2008). On the other hand, finding metaphorical meaning in literal falseness and grasping for similarity between two disparate concepts in a metaphorical statement or image can elicit negative tension. This is caused by incongruity in literally false statements or artificial images. Pleasure can occur when this tension is relieved (McQuarrie & Mick, 1992; Sopory & Dillard, 2002).

When an ad has an implicit pictorial metaphor and an illustrated headline that is directly related (i.e., a complete headline), the completeness of the headline facilitates the consumers' cognitive elaboration. After understanding the metaphorical meaning in the ad, a positive emotional response, such as pleasure, occurs. Therefore, this is more likely to have a positive impact on the attitude towards the ad and the brand, and purchase intention. Furthermore, when the ad has an explicit pictorial metaphor and a directly illustrated headline (i.e., a complete headline), the completeness of the headline may disturb consumers' positive emotional responses, such as pleasure which can come from interpreting the ad messages by themselves. Therefore, a complete headline that exactly explains the metaphorical meaning in the ad also increases understanding but may reduce positive emotional responses (Phillips, 2000). The complete headline is more likely to prevent the pleasure and relief that comes from interpreting and decoding and to decrease a positive impact on the attitude towards the ad, the brand, and on purchase intention.

Previous researchers argued that the emotional effect is stronger than the motivational effect (Batra & Stayman, 1990; Mackie & Worth, 1989). When an implicit pictorial metaphor and a directly illustrated headline (i.e., a complete headline) are employed in the ad, regardless of individual differences in NFC, if the ad with the pictorial metaphor induces a positive mood (or emotion) to the receivers, positive emotional responses from the metaphorical ad will lead to more positive ad effects. In addition, if the pictorial metaphors in ads induce less positive or even negative emotional responses, they will lead to less positive or negative ad effects.

For example, when the ad employs an implicit pictorial metaphor and no-headline, even though the consumers have low NFC, if the consumers just feel a positive emotion (or mood) from it, these positive emotional responses are more likely to evoke a more positive attitude toward the brand and purchase intention. If positive emotions are not generated, the relationship between the ad with pictorial metaphors and positive ad effectiveness disappears. The affective priming effect theory and the role of emotions as mediator leads to the following hypothesis:

**H4:** Emotional responses from metaphorical ads will mediate the effects of the optimal combination of pictorial metaphors and headline types on advertising consequences in consumers (i.e., attitude toward the brand and purchase intention).

According to Isen and Levin (1972), when individuals are involved in detailed cognitive processing, this processing requires some effort and disrupts positive moods. Thus, mood-protection tendencies that individuals have should lead to reduced effort in the cognitive processing of ads (Isen & Levin, 1972). The researchers asserted that individuals in positive moods process messages with less cognitive elaboration and positive moods decrease cognitive elaboration (Batra & Stayman, 1990). Therefore,

emotional responses from metaphorical ads, especially positive affect such as pleasure, make for positive priming. Regardless of individual differences in cognitive tendency, if the ad with the pictorial metaphors elicits positive emotional responses, the responses will lead to a more positive impact on ad effectiveness.

The current study shows the effect of visual metaphors with headlines on emotional responses and the resultant changes in consumers' attitudes and behavioral intention.

## CHAPTER 3 METHODOLOGY

This chapter describes the procedure is used to examine the interrelations between the types of pictorial metaphors and headlines on participants' ad attitude, brand attitude, and purchase intention while considering individual differences on cognitive and affective responses. Two separate experiments were conducted to test all hypotheses. Experiment 1 was used to examine and verify the effect of the ad employing pictorial metaphors all across product types. Experiment 2 was conducted to investigate the interaction effects among visual, verbal, and cognitive differences in individuals including the role of emotional effects.

### **Experiment 1**

#### **Study Design**

An experiment was implemented with the univariate analysis of variance (ANOVA) to examine the effect of pictorial metaphors on the attitude toward the ad, brand, and purchase intention (i.e., Hypothesis 1). Experiment 1 was conducted on the dependent variables to determine whether their mean scores were significantly different between the participants. Each set of twelve-advertisements in one type of ad images (i.e., visual modality: pictorial metaphor vs. non-metaphor) was rated by nearly 21 participants.

#### **Recruitment and Participants**

A total of fifty-five (N = 55) participants for the Experiment 1 were recruited online via Amazon Mechanical Turk® (M-Turk) and were randomly assigned to one of the experimental conditions. Amazon Mechanical Turk® has become a popular vehicle for online experimental research in social science (Mason & Suri, 2012; Paolacci,

Chandler, & Ipeirotis, 2010). Research has shown that experimental participants using Amazon Mechanical Turk® demonstrate no difference in exhibiting classic heuristics and biases, and in paying attention to experimental directions, when compared to participants from other traditional data collection methods such as those chosen through use of a lab subject pool (Paolacci et al., 2010). In M-Turk, two criteria were used to collect data: (1) a HIT approval rate for the M-Turk workers equal to or greater than 95%, and (2) the location was restricted to the United States.

Among fifty-five ( $n = 55$ ) participants for Experiment 1, the responses from 8 participants who failed to complete the questionnaire were excluded and 6 participants were excluded in the data analysis because they were identified as having already experienced an experiment with very similar ads. Thus, a total of 41 responses were used for the data analyses in Experiment 1. Specifically, the number of participants in the ads with pictorial metaphors and the ads with non-metaphors was 21 and 20, respectively.

In terms of demographic information, among 41 participants, the average age was 39.1 years ( $SD = 15.25$ ), and 24 were male (58.5 %) while 17 were female (41.5 %). In terms of race, 33 participants (80.5 %) were Anglo American/Caucasian, 3 participants (7.3 %) were multiracial, 2 participants (4.9 %) were African American, 2 participants (4.9 %) were Hispanic/Latino, and 1 participant (2.4 %) was Asian American. In terms of education level, a majority of the highest level of education were College graduate (26.8 %) and those with Some college (26.8 %) respectively, followed by High school graduate (22.0%), Graduate degree (19.5%), Some high school (2.4%),

and Other (2.4%). All descriptions of participants for Experiment 1 were summarized in Table 3-1.

Table 3-1. Description of Participants for Experiment 1.

Variables	Description	Frequency	Percent
Gender	Male	24	58.5 %
	Female	17	41.5 %
Race	Anglo American/Caucasian	33	80.5 %
	Multiracial	3	7.3 %
	African American	2	4.9 %
	Hispanic/Latino	2	4.9 %
	Asian American	1	2.4 %
	Other	1	2.4 %
Level of education	College graduate	11	26.8 %
	Some college	11	26.8 %
	High school graduate	9	22.0%
	Graduate degree	8	19.5%
	Some high school	1	2.4%
	Other	1	2.4%
Average Age	<i>M</i> = 39.12 ( <i>SD</i> = 15.25)		

### Development of Stimuli

It is generally expected that advertising for high-involvement product categories is processed differently than advertising for low-involvement categories (Rossiter & Percy, 1997). Across typical product types, studies usually manipulate the advertising stimuli by product involvement or product categories to determine how people respond

to these ad treatments, and then relate these inter-individual differences in attitude towards the ad to cross-sectional variations.

According to the previous study by Ang (2002), the use of metaphoric headlines for a utilitarian product enhances attitude and behavioral intention more than the use of a non-metaphoric headline does. However, for a symbolic product, metaphoric headlines lead to less favorable attitudes and behavioral intentions than non-metaphoric headlines do (Ang, 2002). In another study, metaphors in headlines had an influence on ad and brand personality perceptions by product type (Ang & Lim, 2006). Therefore, product type could be an influential factor for ad effectiveness in metaphorical ads.

However, previous studies on metaphors did not consider various product types such as high/low involvement, including the wide price range, and did not cover all product types in the studies (e.g., Chang & Yen, 2013; Bergkvist et al., 2012). Because the product types chosen in metaphorical ads might be a limitation for the results, the current study employed all product categories into the stimuli and focused on the effect of using pictorial metaphors and headlines in ads, considering consumers' cognitive and affective responses.

In the current study including Experiment 2, choosing the advertised products for stimuli was considered based on the advertising planning model; Foote, Cone, and Belding (FCB) model (Ratchford, 1987; Vaughn, 1980), which includes a grid in which purchase decisions can be classified. To distribute the advertised products evenly in all categories for the pre-test, the products in the ad chosen in the current study were selected from all categories of product types that made up of the FCB grid (Vaughn, 1980). The basic dimensions of the FCB grid were developed through testing by

Vaughn (1980) and Ratchford (1987) in 6 separate studies. These studies resulted in the development of the following quadrants on the FCB grid: High involvement/thinking, high involvement/feeling, low involvement/thinking, and low involvement/feeling are quadrants in the grid (See Figure 3-1). The use of the advertised products across a variety of product categories was expected to enhance the external validity and generalization of the study. The FCB grid was put into the product categories as a model. There are four quarters in the FCB grid model: (1) informative, (2) affective, (3) habit-formative, and (4) self-satisfaction.

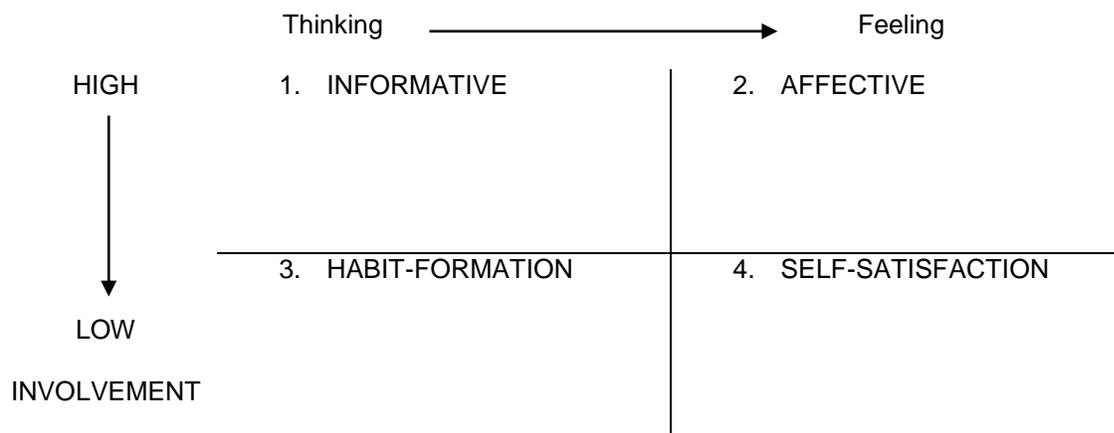


Figure 3-1. The FCB grid. (Vaughn, 1980)

According to Ratchford (1987) and Vaughn (1980), products falling into the high involvement and thinking quadrant, Quadrant 1, include such items as cars, houses, furnishing, televisions, exterior house paint, headache remedies, bike helmets, insurance, computers, home appliances and so on (Ratchford, 1987). Products with characteristics that allow for the informative product type which may cause consumers to think deeper imply a larger need for information. They appeal to the rational side offering cognitively oriented benefits. In contrast, the affective products of Quadrant 2 for high involvement and feeling products appeal to the emotional aspect such as self-

esteem induced by the desire for sensory experience, fantasy, and fun. Products designated as high involvement and feeling products include eye glasses, jewelry, cosmetics, fashion, apparel, underwear, and motorcycles (Ratchford, 1987).

The products falling into the low involvement and thinking quadrant include paper towels, liquid bleach, insect repellent, regular shampoo, insecticide, food, small household items, salad oil, suntan lotion, and diapers (Ratchford, 1987). The products for low involvement and feeling include liquor, candy, movies, peanut butter, deodorant, toothpaste, fast food restaurants, fruit, barbecue sauce, diet soft drinks, regular soft drinks, gum, chocolate, beer, liquid hand soap and cleaner (Ratchford, 1987).

Considering the FCB grid for the stimuli (Vaughn, 1980) this could be a way to integrate cognitive and affective responses for products. As a result, all advertised products for ad stimuli in this study were chosen by following the literature reviews (Ratchford, 1987; Vaughn, 1980).

In each quadrant, three advertised products were interspersed. Even though the more ad stimuli the study has the better the external validity will be, the number of ad stimuli should be limited to ensure good internal validity as well. This study uses three ads for the product types in each quarter. Developing these types of visual modality is important because three ads in each quarter of the product types are expected to be balanced to avoid bias by one side in a quarter of the product types. Therefore, each quarter of the product types has three different ads for a total of twelve advertisements that fall into each type of visual modality (visual metaphor vs. non-metaphor) across all product types.

The ads and advertised products used in Experiment 1 were displayed in each quadrant following the FCB grid and the products (Ratchford, 1987; Vaughn, 1980) as shown in Table 3-2 and 3-3. The total number of each type of ads was the same across all types of product categories. Therefore, the ad stimuli in the current study are covered for all product types.

Table 3-2. Product Types for (Pictorial Metaphors) Ads in Experiment 1 – total 12 ads

Involvement	Think	Feel
	1 Informative	2 Affective
High involvement	Car, Blender mixer, Grass trimmer	Cosmetic, Outdoor shoes, Underwear
	3 Habit-formation	4 Self-satisfaction
Low involvement	Laundry detergent, Lint roller, Baby diapers	Candy, Hot sauce, Beverage

Table 3-3. Product Types for (Non-Metaphor) Ads in Experiment 1 – total 12 ads

Involvement	Think	Feel
	1 Informative	2 Affective
High involvement	T.V., Car, Vacuum-cleaner	Cosmetic (Lip Balm), Jeans, Shoes
	3 Habit-formation	4 Self-satisfaction
Low involvement	Laundry detergent, Toothpaste, Baby diapers	Butter, Beverage, Chocolate

The advertisement stimuli used in this study were selected from existing ad-images in the world market. The ads with famous brands were modified to fictitious brands to hold the participants' perceived attitudes toward the brands to a minimum. Another reason is that the brand name fulfills the same function as a headline because well-known brands may play a role that evokes the benefits associated with it (Bergkvist, Eiderback, & Palombo, 2012). In addition, some ads are not available in the U.S. and these ads were unknown to the participants when the experiment was conducted. All tests in the experiments were conducted with fictitious or unknown

brands to eliminate pre-existing brand attitudes. Given the use of fictitious brands, when participants were asked about the ads, they were informed of the product item in the ad. As a result, a total of 24 advertisements were developed for Experiment 1. Twelve advertisements fell into pictorial metaphor ads and twelve advertisements were in non-metaphor ads as shown in Table 3-2 and 3-3.

By conducting multiple pretests with various metaphorical ads, degree of visual metaphors, difficulty of the ad, the perceived congruence between the copy and the visual metaphor image in the ad, and the advertising overall message were assessed for choosing the ad stimuli.

### **Procedure**

Participants were randomly assigned to one of the two experimental conditions (pictorial metaphors vs. non-metaphors) with twelve advertisements. On the M-Turk invitation page, participants are guided to a link for the study. Prospective participants were asked to read the informed consent and they were told that the purpose of the study was to examine their responses to print ads. The instrument was self-guided, and had no time limit. Participants were informed that they would be given twelve advertisements and be asked about each ad. In the first stage of each advertisement, participants were asked to rate for ad attitude, brand attitude, and purchase intention, followed by questions about the degree of metaphor in the ad image for the manipulation check. Then, participants answered demographic questions (e.g., gender, race, age, and the highest education level).

### **Pretest Procedure**

To develop rigorous advertising stimuli for visual metaphor ads and to confirm the advertised products interspersed with each quarter in the FCB grid model (Vaughn,

1980), the pretest was followed from previous literature (Ratchford, 1987; Vaughn, 1980). Multiple pretests were conducted in Experiment 1. Participants for the pretests were recruited from Amazon Mechanical Turk®.

The purpose of the pretests was to identify some dimensions for only metaphorical ads such as degree of visual metaphors, difficulty of the ad, the perceived congruence between the copy and the visual metaphor image in the ad. In addition, the overall advertising message was tested to select the appropriate metaphorical ads for the studies and to ensure that the instructions for participants were clear. The pretests also verified whether the level of ad difficulty was too high among ad stimuli. The pretest for the difficulty of the ad was tested with the ads without a headline copy because it needs initially to measure only for visual metaphors excluding any assistance.

Initially 38 metaphorical ads were selected from the existing ads in the world covering all product types. Those include both implicit and explicit metaphor ads evenly distributed for the ads with visual metaphors. In each pretest, approximately 20 participants were presented and rated in each dimension with those metaphorical ads. After the pretest, each visual metaphor ad or non-metaphor ad of 12 ads were selected from the 38 ads and those are interspersed throughout the main study in Experiment 1.

In the pretest, product involvement for the ad stimuli was not questioned or measured and the product types of the ad stimuli were interspersed with the FCB model (Ratchford, 1987; Vaughn, 1980) because the perceived product involvement would be different for each individual even for the same product in the ad.

In addition, advertisement stimuli for non-metaphor ads were not tested in the pretests. However, the pretest in non-metaphor ads yielded to the manipulation check.

All 24 advertisements for non-metaphor stimuli and visual metaphor stimuli based on the pretest results were selected across all product types and the ad stimuli with visual metaphors were selected where the degree of metaphors was higher than the mean value ( $M_{\text{visual metaphor}} = 4.10$ ). The mean of the difficulty of the ad was 3.88 for the metaphorical ads and the ads were chosen around the mean value. The mean of the perceived congruence between the copy and the visual in the metaphorical ads was 4.68. The mean of the advertising overall message was 4.55 and the ad stimuli with visual metaphors were selected by higher value than the mean.

As a result of the pretest for ad stimuli selection, a total of 24 different advertisements integrating pictorial metaphors (e.g., 12 non-metaphors and 12 visual metaphors) with headlines were developed across all product involvement categories. The ad stimuli used in this study were provided in Appendix B.

### **Measurement Instruments**

Most of the measures employed in the study were adapted from relevant research and have been commonly used in the applicable literature. In the process of research design implementation, the measurement instrument was also designed. The measurement instrument for Experiment 1 included the items for the pretests and those measuring dependent variables.

In the pretest, participants received 38 ads and they were asked to verify the degree of metaphor and to check the deviation in difficulty of the ad, the perceived congruence between the copy and the visual metaphor image in the ad, and the quality of the overall advertising message. Participants rated the metaphoric level of ad images on six 7-point scales, which were anchored by bipolar adjectives such as “imaginative/matter-of-fact,” “artful/plain,” “inapt/apt,” “right/wrong,” “creative/silly,” and

“clever/stupid” (McQuarrie & Mick, 1996; 1999; McQuarrie & Phillips, 2005; Phillips & McQuarrie, 2009). Participants measured the perceived congruence between the copy and the visual metaphor image in the ad on three 7-point scales, which were anchored by bipolar adjectives: Not compatible/compatible, a good fit/ not a good fit, and congruent/ not congruent (Rifon, Choi, Trimble, & Li, 2004).

Participants were also asked about the degree of difficulty of the ads on three 7-point scales that best describe their impression toward the advertisement they have seen: How much do you think it is difficult to get what the message is from this ad? This ad must make you stop and think; it took some time to infer from a metaphor what has been communicated (Bergkvist, Eiderback, & Palombo, 2004; Phillips, 2000). They measured the overall advertising message on three 7-point scales, which were anchored by bipolar adjectives: not powerful/powerful, not convincing/convincing, and not strong/strong (Hallahan, 1999; Wang, 2007). In addition, they were asked if they had ever seen the advertisement or heard the brand before in order to adjust ad familiarity and to confirm the fictitious brands.

For the dependent variables, participants were asked to measure their attitudes towards each ad on a three-item, seven-point semantic differential scale (the extent to which they liked the advertisement). The bipolar adjective items were anchored by “good/bad,” “positive/negative,” and “favorable/unfavorable” based on MacKenzie & Lutz’s (1989) measurement for ad attitude. The reliability estimate for this measure was acceptable (Cronbach’s  $\alpha = .95$ ).

The participants were asked to rate what they thought of the advertised brand on a three-item, seven-point semantic differential scale in the study. Participants’ attitudes

toward the brand in the advertisement were assessed on the items, which were anchored by “favorable/unfavorable,” and “good/bad,” “pleasant/ unpleasant” (Jeong, 2008). This was therefore a measure of how effective participants thought the brand was. A composite rating was created by calculating the mean of the items. The reliability estimate for this measure was acceptable (Cronbach’s  $\alpha = .96$ ).

Participants’ purchase intention was rated via a three-item, seven-point bipolar adjective scale anchored by “very likely/very unlikely,” “probable/improbable,” and “possible/impossible” (Lee & Aaker, 2004). The three items were averaged to derive a composite rating. The value of Cronbach’s was .94.

## **Results**

### **Manipulation Check**

The manipulation check questions measured on a 7-point scale were used to assess the degree of metaphor of the ad stimuli. The manipulation check question captured whether the ad with pictorial metaphors would be judged as artful/clever rather than plain/matter-of-fact (e.g., McQuarrie & Mick, 1996; 1999). Participants rated the metaphoric level of ad images on six 7-point scales, which were anchored by bipolar adjectives such as “imaginative/matter-of-fact,” “artful/plain,” “inapt/apt,” “right/wrong,” “creative/silly,” and “clever/stupid” (McQuarrie & Mick, 1996; 1999; McQuarrie & Phillips, 2005; Phillips & McQuarrie, 2009). The reliability estimate for this measure was acceptable (Cronbach’s  $\alpha = .96$ ). A one-way ANOVA was performed to verify whether the manipulation of pictorial metaphor in ads differed significantly. The results suggest that participants considered the pictorial metaphor conditions significantly more metaphorical ( $M_{\text{metaphor}} = 5.12$ ) than the non-metaphorical (i.e., the control) ( $M_{\text{non-metaphor}} = 4.25$ ,  $F(1, 39) = 12.54$ ,  $p < .001$ ).

## Tests of Hypothesis 1

In support of Hypothesis 1, a separate Study 1 was conducted as part of this research. A series of one-way ANOVA was conducted to examine mean differences in attitude toward the ad, attitude toward the brand, and purchase intention (DVs) for visual types (IVs), namely ad image using visual metaphors or non-metaphor in ads. The results of an ANOVA on attitude toward the ad, attitude toward the brand, and purchase intention indicated that the main effect of visual metaphors in ads on DVs was significant. With respect to attitude toward the ad, the results suggest a significant main effect ( $F(1, 39) = 4.51, p < .05$ ) for ad condition ( $M_{\text{metaphor}} = 5.12$  vs.  $M_{\text{non-metaphor}} = 4.56$ ). With respect to attitude toward the brand, the results show there is no significant difference ( $F(1, 39) = 3.39, p = .073$ ) for each ad condition ( $M_{\text{metaphor}} = 5.03$  vs.  $M_{\text{non-metaphor}} = 4.48$ ). With respect to consumers' purchase intention, the results suggest a significant main effect ( $F(1, 39) = 5.49, p = .001$ ) for the ad condition ( $M_{\text{metaphor}} = 4.53$  vs.  $M_{\text{non-metaphor}} = 3.87$ ). Therefore, these results provide partial support for Hypothesis 1. Simple main effects of means and standard deviations for all dependent variables are summarized in Table 3-4.

Table 3-4. Simple Main Effects of Means and Standard Deviations for Dependent Variables in Experiment 1

Dependent Variables	Pictorial Metaphor vs. Non-Metaphor
	Mean (Standard Deviation)
Ad Attitude	5.12 (.76) vs. 4.56 (.94) *
Brand Attitude	5.03 (.86) vs. 4.48 (1.06)
Purchase Intention	4.53 (.64) vs. 3.87 (1.10) ***

Note: \*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ .

## **Discussion**

Experiment 1 examined the main effect of pictorial metaphor on consumers' ad attitude, brand attitude, and purchase intention for the selected twelve advertisements in each condition across all product categories (Ratchford, 1987; Vaughn, 1980). As in the previous studies (Gkiouzepas & Hogg, 2011; Mitchell & Olson, 1981), the results revealed that consumers who were exposed to pictorial metaphor ads exhibited more favorable ad attitude and motivated a greater purchase intention than those who were exposed to non-metaphor ads. The findings from Hypothesis 1 in Experiment 1 provide distinct evidence that the ads which contain embedded visual metaphors change consumers' attitudes and behavioral intention over all types of product categories (Ratchford, 1987; Vaughn, 1980). In addition, the findings ultimately verify that the ads employing visual metaphors provoke greater cognitive elaboration and this leads to greater effectiveness on ad attitude and purchase intention (ELM; Petty & Cacioppo, 1986) across different product categories than do the ads with non-metaphor in the ad image.

The results of Experiment 1 re-established the effect of the ad employing pictorial metaphors in the ad image for persuasive advertising effects, across all product types in the ad.

## **Experiment 2**

### **Study Design**

An experimental design was used to investigate the effect of the interrelation between pictorial metaphor and headline copy in ads with an individual's difference by NFC on the attitude toward the ad, brand, and purchase intention, while considering emotions as a mediator. The current study examined whether the types of pictorial

metaphors with or without verbal support in ads (i.e., headline copy) have an impact upon emotional responses, understanding cognitive influences such as need for cognition, and whether these ads are thereby able to affect consumers' attitudes and behavioral intention.

An experimental study between-subjects randomized factorial design 2 (Pictorial metaphor type: implicit vs. explicit) x 2 (Verbal support: directly illustrated copy vs. non-copy) x 2 (Need for cognition: high vs. low) was used to test the proposed Hypotheses 2, 3, and 4 (Table 3-5). Experiment 2 included three independent variables: 1) type of pictorial metaphors; 2) headline copy; and 3) level of need for cognition. Dependent variables include attitude towards the ad, attitude towards the brand, and purchase intention. Emotional responses (i.e., pleasure) from participants were used as a mediator in the study. In Experiment 2, participants were randomly assigned to view twelve treatment stimuli for various product types (Table 3-7, 3-8) through several pretests. Twelve advertisements in each type of pictorial metaphor condition (i.e., implicit or explicit) were used as ad stimuli.

Table 3-5. 2 x 2 x 2 Factorial Design

	High NFC		Low NFC	
	Implicit pictorial metaphor	Explicit pictorial metaphor	Implicit pictorial metaphor	Explicit pictorial metaphor
Headline copy	I	II	V	VI
Non-copy	III	IV	VII	VIII

The following sections show further information about the implementation of the research design. Sections include information about recruitment of participants, stimulus development, measurement instrument design, steps taken to pretest the research design, and the procedure for the main study.

### **Recruitment and Participants**

A total of 310 participants for the study were recruited through Amazon Mechanical Turk® (M-Turk). Consistent with Experiment 1, two criteria used to collect data in M-Turk were: (1) a HIT approval rate for the M-Turk workers greater than or equal to 95%, and (2) the location was restricted to the United States. Among the respondents, responses from 4 participants who failed to complete the questionnaire were excluded and 54 were excluded through use of attention questionnaires. Thus, a total of 252 responses were used for the data analyses in Experiment 2 and were randomly assigned to one of eight experimental conditions. Specifically, the number of participants in the implicit and explicit metaphors was 129 and 123, respectively, and the number of subjects in the ad with copy and non-copy conditions was 123 and 129.

Among the 252 subjects, in terms of demographic information, 91 were male (36.1 %), while 161 were female (63.9 %). The average age of participants was 39.7 years ( $SD = 12.59$ ). In terms of the distribution of participants' age, 9.5 percent fit into the 18 to 25 years old range, 34 percent were 26 to 34 years old, 27 percent were 35 to 44, 17 percent were 45 to 54, 11 percent were 55 to 64 and 3.6 percent were in the over 65 and under 80 years old category. Approximately 77.8 percent of participants were Anglo American/Caucasian, 7.9 percent African American, 6.7 percent Asian American, 2.8 percent Native American/American Indian, 2.4 percent Hispanic/Latino, and 2.4 percent Multiracial. A majority of the highest level of education (44 %) was College

graduate, followed by some college (28.7%), Graduate degree (13.5%), High school graduate (12.7%), Other (0.8%), and Some high school (0.4%). All demographic information for the participants is summarized in Table 3-6.

Table 3-6. Description of Participants for Experiment 2.

Variables	Frequency	Percent
Gender		
Male	91	36.1 %
Female	161	63.9 %
Age (years old)		
Average	39.7 ( <i>SD</i> = 12.59)	
18 to 25	24	9.5 %
26 to 34	82	34 %
35 to 44	68	27 %
45 to 54	42	17 %
55 to 64	27	11 %
65 to 80	9	3.6 %
Race		
Anglo American/Caucasian	196	77.8 %
African American	20	7.9 %
Asian American	17	6.7 %
Native American/American Indian	7	2.8 %
Hispanic/Latino	6	2.4 %
Multiracial	6	2.4 %

Table 3-6. Continued

Variables	Frequency	Percent
Highest level of education		
College graduate	111	44 %
Some College	72	28.7 %
Graduate degree	34	13.5 %
High school graduate	32	12.7 %
Other	2	0.8 %
Some high school	1	0.4 %

### Development for Stimuli

Consistent with Experiment 1, the current study employed all product categories into the stimuli and focus on the effect of using pictorial metaphors and headlines in ads, considering consumers' cognitive and affective responses. In Experiment 2, choosing the advertised products for stimuli was considered based on the FCB grid (Ratchford, 1987; Vaughn, 1980) as well. To distribute the advertised products evenly in all categories, the products in the ad chosen in the current study were selected from all categories of product types that made up the FCB grid (Ratchford, 1987; Vaughn, 1980) similar to Experiment 1 in order to enhance the validity and generalization of the study. Considering the FCB grid (Ratchford, 1987; Vaughn, 1980) for the stimuli could be a way to integrate cognitive and affective responses for products.

The product types of the ads to use in Experiment 2 were displayed in each quadrant following the FCB grid and the products (Ratchford, 1987; Vaughn, 1980). The ads across the product types used in Experiment 2 are shown in Table 3-7 and 3-8.

The total number of ads in each product category is the same. Therefore, the ad stimuli in Experiment 2 were covered for all product types.

Table 3-7. Product Types of (Implicit Metaphors) Ads in Experiment 2 – total 12 ads

Involvement	Think	Feel
	1 Informative	2 Affective
High involvement	Car, Blender mixer, Electric Iron.	Eye-wear (glasses), two Underwear ads.
	3 Habit-formation	4 Self-satisfaction
Low involvement	Two Hand sanitizers ads, Salad dressing.	Delivery Pizza, Hot sauce, Mouthwash.

Table 3-8. Product Types of (Explicit Metaphors) Ads in Experiment 2 – total 12 ads

Involvement	Think	Feel
	1 Informative	2 Affective
High involvement	Ski-Board helmet, Grass trimmer, Lawn mower.	Stockings, Outdoor Shoes, Cosmetic.
	3 Habit-formation	4 Self-satisfaction
Low involvement	Lint roller, Baby Diapers, Toothbrushes.	Candy, Beverage, Gum.

As previously outlined in Experiment 1, the advertisement stimuli were selected from existing ad-images and the ads with real brands were modified to fictitious brands to hold the consumers' perceived brand attitudes to a minimum. Furthermore, some advertised products are not available in the U.S. and these ads were unknown to the participants when the experiment was conducted. Therefore, Experiment 2 was conducted with fictitious or unknown brands to eliminate pre-existing brand attitudes. Given the use of fictitious or unknown brands in the study, participants were informed of the advertised product item in order to identify what kind of product was advertised. Consequently, a total of 24 advertisements was developed for Experiment 2 by two

types of pictorial metaphor (i.e., explicit/implicit) and whether or not a headline copy was employed.

Two types of headlines were provided for each ad in the study. One type of headline represented complete verbal anchoring (i.e., a headline that explicitly described the ad's message) and the other type had no headline. Furthermore, because there was no statistically significant difference between using a moderate headline and a complete headline in the previous research (Bergkvist, Eiderback & Palombo, 2012; Phillips, 2000), the current study applied only complete headlines to the stimuli when using a headline in the metaphorical ads. The headlines in the study consisted of a literal description of what the ad represented. The headline copy in each ad were modified under each condition.

In the ad stimuli with headlines or no headlines, if there was an ad with no headline versus headlines, the ad was exactly the same but headlines were placed in it. Headlines in each ad were used with the existing headlines when possible. But if there was no headline in the original ad, the appropriate headline copy in the ad stimuli was created or modified by an expert, an advertiser and a doctoral student with professional experience in advertising agencies. In addition, the created headline copies were assessed in the pretest in order to ensure the congruency with the metaphorical ad image and their apparent authenticity.

All ad stimuli were presented to an advertising expert to review the ads to see whether they looked realistic and professional. Once it was agreed that the ads were plausible and representative of the type that may be expected to be seen in magazines, the ads were used to enable confidence in the generalization of results.

## **Procedure**

### **Pretest procedure**

To develop a set of rigorous advertising stimuli, the stimulus development procedure followed a multiple-step process by conducting several pretests. Participants for the pretests were also recruited from Amazon Mechanical Turk<sup>®</sup>. Respondents in the pretest did not participate in the main study. If participants were identified as those who were exposed to the same experiments or ad stimuli, the data of the participants were excluded in the data analysis.

Several pretests for the metaphorical ads had been already conducted in Experiment 1 and the pretest on the copy completeness was additionally assessed in Experiment 2. The pretests enabled the researchers to manipulate ad stimuli and decreased the potential for confounding to occur. The purpose of the pretests was to identify whether some dimensions, such as degree of metaphors, are in metaphorical ads in order to select the appropriate metaphorical ads for the main study and to ensure that the instructions for participants are clear. The pretests also verified headline copy completeness and whether the level of ad difficulty is similar or not among ad stimuli. Ad stimuli with headline copy were selected via use of the pretest on headline copy completeness. The mean of the copy completeness was 4.66 in 7-point scales and the ad stimuli were chosen with a higher value than the mean value.

In each pretest, approximately 20 participants for each dimension were presented with 38 advertisements from the existing ads and answered the questions. Each participant reviewed all 38 ads with headline copy in two types of pictorial metaphor (i.e., implicit and explicit metaphor) ads. Of these, 24 kinds of metaphorical ads (12 implicit, 12 explicit) were selected covering all product types. These ad stimuli

were developed using 12 implicit metaphors and 12 explicit metaphors across all product categories based on the literatures of the FCB model. The participants were asked to measure one dimension such as the degree of completeness for a headline copy in a related ad. Three dimensions (e.g., the degree of visual metaphors, difficulty of the ad, and the degree of the completeness of headline copy) for confounding checks were based on possible biases and the hypotheses in the current study (Table 3-9).

After the pretest, ads were selected from the 38 original ads for further review. These ads were broken down into 12 ads for implicit metaphors and 12 for explicit metaphors. Each of the series of 12 ads was interspersed for the main study.

Table 3-9. Pretests for Each Dimension

	Pretest 1	Pretest 2	Pretest 3
	Group 1(n=20) Average	Group2(n=20) Average	Group3(n=20) Average
	DIMENSIONS		
Implicit Metaphors	Degree of Metaphor	Headline Copy Completeness	Difficulty of the ad
Ad1			
Ad2			
Ad3			
.			
.			
Ad 12			
Grand Average	Value IG1	Value IG2	Value IG3
Explicit Metaphors	Degree of metaphor	Headline Completeness	Difficulty
Ad13			
Ad14			
Ad15			
.			
.			
Ad 24			
Grand Average	Value EG1	Value EG2	Value EG3

The pretests allowed us to select the ads by determining similar levels of the dimension such as difficulty of the ad and headline copy completeness for each type of

pictorial metaphor. All mean values of each dimension in implicit and explicit metaphor were compared. The final 12 ads for each implicit/explicit pictorial metaphor ad were selected.

Based on the results of the pretest, 12 ads in each type of pictorial representation (i.e., implicit and explicit metaphor) were determined as appropriate stimuli for the main study. After the pretest, a total of 24 ads confirmed from these results were used to prevent triggering difficulty of ad understanding, degree of pictorial metaphors, and headline copy completeness that might bias participants' responses for the main study.

As a result of the pretest for ad stimuli selection, a total of 48 different advertisements integrating pictorial metaphors (e.g., 12 implicit metaphor and 12 explicit metaphor) and two types of headlines (i.e., 12 ads with directly illustrated headline copy and 12 ads with no headline copy) were developed across all product involvement categories. After the pretests, the advertising stimuli used in this study were provided in Appendix B. Pictorial metaphors reflecting both types of pictorial (implicit/explicit) metaphors and headlines with the appropriate degree of completeness were interspersed in the experimental ads for Experiment 2.

### **Main test procedure**

The main experiment of the current study was conducted online via Amazon Mechanical Turk<sup>®</sup>. When participants signed up to perform the experiment, the informed consent form was reviewed including information about their rights as study participants. For example, the purpose of the research was outlined, as well as the confidentiality of their responses to all information requests. Prospective participants were told that the purpose of this study was to examine their responses to print ads using metaphorical images, which were woven from headline copy as well as their emotional responses.

After consenting to participate, the Web survey site (Qualtrics.com) led participants to the questionnaires. Participants were randomly assigned to one of the experimental advertisement conditions, which clearly did implicit or explicit metaphor images and directly illustrated headline copy or no headline copy for a fictitious brand. The instrument was self-guided, and there was no time limit. Print ads were chosen because they afforded greater experimental control.

For each condition, participants were exposed to 12 colored magazine ads containing a type of pictorial metaphor and a type of headline copy through a Web survey site (Qualtrics.com) on the screen of their individual computers. First, as an attention question, participants were asked whether there was an advertised product image in the image of the ad in order to distinguish types of visual metaphor. An additional description of a small product image at the bottom of the ad was excluded. This was a way to ensure participants' attention to each ad at the beginning of the questionnaire and it would also give the participants incentive to think about what the ad intend to convey. And then, participants were asked about their feeling, or emotional responses to each of the 12 ads, right after seeing each ad (Gilbert, Fiske, & Lindzey, 1998). In addition, participants were questioned about dependent variables (i.e., ad attitude, brand attitude, and purchase intention). Finally, they were asked about the difficulty of the ad for the manipulation check.

After the presentation of all 12 ads with questions, individuals' Need for Cognition was measured, investigated by the level of cognitive motivational systems. Participants were asked to answer questions intended to measure their level of Need for Cognition. Their level of cognitive elaboration, defined as "the statistical tendency of, and intrinsic

enjoyment, individuals derive from engaging in effortful information processing” (Petty & Cacioppo 1986, p. 48), as a moderating factor of the effect of visual metaphors in the ad. NFC was measured at the very end of the questionnaire in order to exclude the cognitive bias or influences that may come from the measure of NFC questions.

Next, participants were asked to answer questions about their demographics (e.g., gender, age, race, education level). Finally, participants were informed that their classification information was used only to confirm that they participated in the research, and their identity was kept confidential to the extent provided by law. Participants were thanked for their participation, debriefed, and were directed to a page with the code number for their compensation.

### Measurement Instruments

The measurement instrument for Experiment 2 included items measuring independent variables for the pretests, the manipulation checks, dependent variables, a covariate, a moderating variable and mediating variables (Table 3-10).

Table 3-10. Measurement Instrument

Variable type	Variable	#of items	Study
Independent variable	Degree of pictorial metaphor	6	McQuarrie & Mick, 1996; 1999
(Manipulation-related variable)	Difficulty of the ad	3	Phillips, 2000; Bergkvist, Eiderback, & Palombo, 2012
	Headline completeness	3	Phillips, 2000

Table 3-10. Continued

Variable type	Variable	#of items	Study
Dependent variable	Ad attitude	3	MacKenzie & Lutz 1989
	Brand attitude	3	Jeong, 2008
	Purchase intention	3	Lee & Aaker, 2004
Moderator	Need for cognition	5	Cacioppo, Petty, & Kao, 1984
Mediator	Pleasure value of emotion	4	Gilbert, Fiske, & Lindzey, 1998

### Pretest measures for manipulations

In the pretest, participants received 24 ads for consideration and they were then asked to verify the degree of metaphor and to check manipulation on type of metaphors (i.e., implicit or explicit metaphors) (Ang, 2002; Chang & Yen, 2013). To make balanced stimuli and deviation in degree of metaphors, participants rated the metaphoric level of ad images on six 9-point scales, which were anchored by bipolar adjectives such as “imaginative/matter-of-fact,” “artful/plain,” “inapt/apt,” “right/wrong,” “creative/silly,” and “clever/stupid” (McQuarrie & Mick, 1996; 1999; McQuarrie & Phillips, 2005; Phillips & McQuarrie, 2009).

The stimuli of pictorial metaphor images were selected by measuring the degree of difficulty for the pictorial metaphor in the ads in order to have a similar degree of interpretation. Considering previous studies (Phillips, 2000; Bergkvist, Eiderback, & Palombo, 2012) that examined visual metaphors in ads, proper metaphors were identified by asking participants in the pretest to rate them. The difficulty of the ad with

pictorial metaphors was assessed by the degree that best describes participants' impression toward the ad they have seen. The difficulty of the ad was measured with a 9-point Likert-type scale using three items. Participants were asked to rate the following three questions: "Does this advertisement make you stop and think?" "How much do you think this ad is difficult to understand what the message is? (How difficult do you think the message in this ad is to understand?)" "It took some time to infer from a metaphor what's been communicated (1 = *not at all*, 7 = *very much*)." Thus, the stimuli of pictorial metaphor ads were measured on the degree that would be fairly comprehended for the main study (Phillips, 2000; Bergkvist, Eiderback, & Palombo, 2012).

Headline copies in the ads were measured in the pretest for manipulation on the level of headline completeness by the amounts of verbal anchoring added to a metaphorical image. Participants were given the following questions to rate the degree of headline completeness on a nine-point scale: "The headline in the ad tells the meaning of the ad," and "The headline in the ad explains the ad (1 = *strongly Disagree*, 9 = *strongly agree*)" (Phillips, 2000). The pretest enabled us to select a similar degree of completeness about the headlines of the stimuli and facilitates the ability to manipulate the combination of visual metaphors and verbal copy. The higher the number, the more complete the headline in the ad was perceived (verbal anchoring headline). The current study selected the headlines that clearly spelled out the main message conveyed by the pictorial metaphor for the stimuli.

### **Dependent variables**

Consistent with Experiment 1, participants' attitudes towards each ad were measured on a three-item, nine-point semantic differential scale (the extent to which

they liked the advertisement) in Experiment 2. The bipolar items were anchored by “good/bad,” “positive/negative,” and “favorable/unfavorable” (MacKenzie & Lutz 1989).

Participants’ attitudes towards the advertised brand were assessed with a three-item, nine-point semantic differential scale in the Experiment 2 study and the items were anchored by “favorable/unfavorable,” “good/bad,” and “pleasant/ unpleasant” (Jeong, 2008). The three items were averaged to derive a composite rating.

Participants’ purchase intention was measured via the phrase, “After seeing this advertisement, it may encourage me to purchase this product,” on a three-item, nine-point, semantic differential scale anchored by “very likely/very unlikely,” “probable/improbable,” and “possible/impossible” (Lee & Aaker, 2004). A composite rating was created by calculating the mean of the items.

### **Moderator**

Participants were asked to fill out the questionnaire containing the measure for the Need for Cognition scale (Cacioppo, Petty, & Kao, 1984) in Experiment 2. Based on the study by Cacioppo and Petty (1982), participants were asked to measure the degree of Need for Cognition scale. An 18-item Need for Cognition scale (Cacioppo, Petty, & Kao, 1984) was administered to participants in order to examine whether participants have high Need for Cognition or low Need for Cognition containing measures for the 18-item NFC scale. However, as previous studies have suggested (Epstein et al. 2013; 1996), the revised 5-item NFC scale was used in the current study. The Need for Cognition was tested and analyzed by using PROCESS macro in SPSS via mean centering regression with the NFC scores (Belsley, Kuh, & Welsch, 1980) instead of using a median split.

### **Potential moderated mediator**

The pleasure value of emotion represents a very intuitive response that consumers may feel on the spur of the moment after exposure to pictorial metaphor ads. Therefore, the measurement scales were examined right after the ad exposure in Experiment 2. To rate the pleasure value of emotion in each ad, the measure scale of Gilbert, Fiske, and Lindzey (1998) was used, with adjective words such as pleasure, enjoyment, and entertainment. The participants use the bipolar pleasure value of emotion adjective pair on a nine-point scale based on the following: “displeasure/pleasure,” “not enjoyment/enjoyment,” “not entertainment/entertainment,” and “not fun/fun” (Gilbert, Fiske, & Lindzey, 1998).

### **Analytic Strategy**

Experiment 2 tested the two-way interactions between type of pictorial metaphor (implicit vs. explicit) and headline copy (headline copy or non-copy) in predicting interaction effect, while controlling for difficulty of the ad. More importantly, Experiment 2 tested the three-way interaction among types of pictorial metaphor (implicit vs. explicit), headline copy (headline copy or non-copy), and consumers' NFC (i.e., individuals' cognitive differences) in predicting a moderating effect, controlling for difficulty of the ad as a covariate. The current study employed the PROCESS macro via SPSS (Hayes, 2013) for moderated moderation analysis and moderated mediation analysis. To provide a more powerful statistical test of mediation effects, the data were also analyzed with Hayes' (2012) PROCESS macro for SPSS, which uses bootstrapping to calculate the standard errors of the indirect conditional effects on metaphorical ad effectiveness.

## Results

### Pretest

To create balanced stimuli for the difficulty of the ad and deviation in degree of pictorial metaphors, the current study conducted several pretests. For well-adjusted manipulations, one-way ANOVA was performed to assess the manipulations of the variables for Experiment 2.

The results of Pretest 1 for the degree of metaphors in the ads demonstrated that there were no significant differences between implicit metaphor ( $M = 4.42$ ) and explicit metaphor for the degree of metaphor in the ad ( $M = 4.52$ ,  $F(1, 39) = .14$ ,  $p = 0.712$ ).

In addition, the results of Pretest 2 showed that there was a significant manipulation effect for the difficulty of the ad with implicit metaphor ( $M = 4.11$ ) and in the ad with explicit metaphor ( $M = 3.59$ ,  $F(1, 37) = 1.97$ ,  $p = .17$ ).

In the results of Pretest 3, no significant differences between implicit metaphor ads ( $M = 4.63$ ) and explicit metaphor ads ( $M = 4.96$ ) were found for headline copy completeness ( $F(1, 41) = .96$ ,  $p = .33$ ).

Thus, all manipulations for the variables were successfully confirmed.

### Reliability checks

Reliability checks for variable measures with a multi-item scale were conducted. Regarding the independent variables; Need for Cognition (NFC) was measured on five-item, nine-point semantic differential scales modified by Epstein et al. (2013; 1996), and these consisted of two reversed questions. The reliability estimate for this measure was very acceptable (Cronbach's  $\alpha = .88$ ). With regards to the dependent variables, attitude toward the ad, attitude toward the brand, and purchase intention were examined by a three-item, nine-point bipolar adjective scale developed by MacKenize and Lutz (1989).

The reliability of the ad attitude scale (Cronbach's  $\alpha = .95$ , the brand attitude scale (Cronbach's  $\alpha = .95$ ), and purchase intention (Cronbach's  $\alpha = .96$ ) were respectively very acceptable.

The reliability estimate for other variables was also measured. Participants' evaluation of difficulty of the ad was measured as a covariate with a three-item, nine-point scale (Phillips, 2000) and the reliability (Cronbach's  $\alpha = .86$ ) was acceptable. As a mediator variable, the reliability estimate for the pleasure value of emotion scale (Gilbert, Fiske, & Lindzey, 1998) was acceptable (Cronbach's  $\alpha = .84$ ).

### **Manipulation checks**

One-way ANOVAs were performed to verify the degree of difficulty for metaphorical ads. The manipulation checks of the difficulty of the ads showed that there was a significant difference in difficulty. The mean score of the difficulty of the ads in the condition of implicit metaphor ( $M_{implicit} = 4.36$ ) was significantly different from that of the explicit metaphor ad ( $M_{explicit} = 2.96$ ,  $F = 47.60$ ,  $p < 0.001$ ). This is a different condition from the pretest. In the pretest, one participant rated all ads included as both implicit and explicit metaphor ads. However, in the manipulation check for the main test, one participant reviewed and assessed all the ads under the one condition with only implicit or explicit metaphor ads. In addition, 252 participants verified the type of visual metaphors for each stimulus, of whom 252 (100 %) gave the correct response for the type of visual metaphors in ads. In the attention question, participants were asked to verify the type of visual metaphor (i.e., implicit vs. explicit) and those who answered incorrectly were eliminated from the data analysis.

## Testing for confounding effects

Even though the pretest for the difficulty of the ad was conducted, there seemed a possibility to have an influence on cognitive responses in metaphorical ads to change the attitude and behavioral intention of consumers. Therefore, the questionnaire included a control variable to ensure that the results would only be attributed by the effect of visual metaphors and headline copy; a two-way MANOVA (multivariate analysis of variance) was tested to explore whether there was an interaction effect between the type of pictorial metaphors and headline copy on ad attitude, brand attitude, and purchase intention. The results illustrated that the pictorial metaphor and headline copy did not significantly affect the combined DVs (Wilk's  $\lambda = .993$ ,  $F(3, 246) = .574$ ,  $p = .633$ , partial  $\eta^2 = .007$ ) and multivariate effect sizes are very small.

Considering confounding factors for Hypothesis 2, a two-way ANOVA (analysis of variances) was performed to examine the possible interaction effect of the type of visual metaphors and headline copy on the difficulty of the ad as a dependent variable. This tested whether headline copy had an influence on or whether such headline copy makes a difference on the difficulty of the ads.

The results showed that the type of pictorial metaphor and headline copy have a significant impact on the difficulty of the ad ( $F(1, 238) = 39.72$ ,  $p < 0.01$ ). The result of a simple effect test indicated that headline copy in an implicit metaphor ad significantly decreased the difficulty of the ad (Implicit  $M_{\text{copy}} = 3.82$  vs. Implicit  $M_{\text{non-copy}} = 4.96$ ,  $F(1, 248) = 17.24$ ,  $p < 0.001$ ). Outcomes showed that headline copy reduced the level of difficulty of the metaphorical ad. However, in an explicit metaphor ad, there was no significant change demonstrated for the difficulty of the ad (Explicit  $M_{\text{copy}} = 2.94$  vs. Explicit  $M_{\text{non-copy}} = 2.98$ ,  $F(1, 248) = .025$ ,  $p = .87$ ). Results indicated that the headline

copy more effectively reduced the difficulty of the ad in implicit pictorial metaphor condition than in the explicit metaphor condition. Thus, the difficulty of the ad was a confounding factor on DVs.

### **Tests of hypotheses**

With respect to Hypothesis 2, a two-way multivariate analysis of covariate variance (MANCOVA) was conducted to examine the effect of independent variables (i.e., pictorial metaphors and headline copy) among experimental groups on combined dependent variables such as Ad Attitude, Brand Attitude, and Purchase Intention, while controlling for difficulty of the ads (i.e., covariate). The results of the MANCOVA indicated that the two-way interaction effect between visual metaphors and headline copies were not significant (Wilk's  $\lambda = .998$ ,  $F(3, 245) = .150$ ,  $p = .930$ , partial  $\eta^2 = .002$ ) and the main effects of headline copy (Wilk's  $\lambda = .991$ ,  $F(3, 245) = .761$ ,  $p = .517$ , partial  $\eta^2 = .009$ ) were not significant. However, significant main effects of visual metaphors (type of metaphors) were found (Wilk's  $\lambda = .887$ ,  $F(3, 245) = 10.441$ ,  $p < .001$ , partial  $\eta^2 = .113$ ). Thus, the absence of an interaction effect between visual metaphors and headline copies means that H2 was not confirmed. The covariate (i.e., difficulty of the ads) significantly influenced the combined dependent variables, Wilk's  $\lambda = .817$ ,  $F(3, 245) = 18.239$ ,  $p < .001$ , partial  $\eta^2 = .183$  (Table 3-10). Univariate ANOVA results (Table 3-12) indicate that only visual metaphors (type of metaphors) significantly exert a strong influence on all dependent variables including ad attitude ( $F(1, 247) = 30.284$ ,  $p < .001$ , partial  $\eta^2 = .109$ ), brand attitude ( $F(1, 247) = 30.109$ ,  $p < .001$ , partial  $\eta^2 = .109$ ), and purchase intention ( $F(1, 247) = 13.932$ ,  $p < .001$ , partial  $\eta^2 = .053$ ).

Table 3-11. Multivariate Tests of Two-Way Interaction

	<i>Wilks' Lambda</i>	<i>df</i>	<i>Error df</i>	<i>F</i>	$\eta^2_p$
Difficulty of Ads <sup>a</sup>	.817	3	245	18.24***	.183
Headline Copy	.991	3	245	.76	.009
Type of Metaphors	.887	3	245	10.44***	.113
Copy * Type of Metaphors	.998	3	245	.15	.002

Note: a. Covariate; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 3-12. Univariate Results for the Two-way Interaction Effect Between Type of Metaphors and Headline Copy on Dependent Variables

	DVs	<i>F</i>	<i>df</i>	<i>p</i>	$\eta^2_p$
Difficulty of Ads	AdAtt	50.702	1	.000	.170
	BrdAtt	35.823	1	.000	.127
	PI	28.833	1	.000	.105
Type of Metaphors	AdAtt	30.284	1	.000	.109
	BrdAtt	30.109	1	.000	.109
	PI	13.932	1	.000	.053
Headline Copies	AdAtt	1.852	1	.175	.007
	BrdAtt	2.027	1	.156	.008
	PI	1.948	1	.164	.008
Type of Metaphors x	AdAtt	.001	1	.984	.000
Headline Copies	BrdAtt	.026	1	.873	.000
	PI	.165	1	.685	.001

Note. DVs = Dependent Variable; AdAtt = Ad Attitude; BrdAtt = Brand Attitude; PI = Purchase Intention

Table 3-13 presents the adjusted and unadjusted group means for ad attitude, brand attitude, and purchase intention. Comparison of the adjusted means of ad attitude, brand attitude, and purchase intention indicates that explicit metaphors produce a more favorable attitude and behavioral intention than implicit metaphors.

Table 3-13. Adjusted and Unadjusted Group Means for Ad Attitude, Brand Attitude, and Purchase Intention

	Dependent Variables					
	Ad Attitude		Brand Attitude		Purchase Intention	
	Adjusted <i>M</i>	Unadjusted <i>M</i>	Adjusted <i>M</i>	Unadjusted <i>M</i>	Adjusted <i>M</i>	Unadjusted <i>M</i>
Headline Copy						
Copy	5.59	5.633	5.75	5.77	4.72	4.76
Non-Copy	5.80	5.742	5.96	5.92	4.99	4.93
Types of Metaphors						
Implicit	5.25	5.01	5.41	5.21	4.47	4.24
Explicit	6.15	6.40	6.3	6.52	5.24	5.49

### Moderated moderation analysis

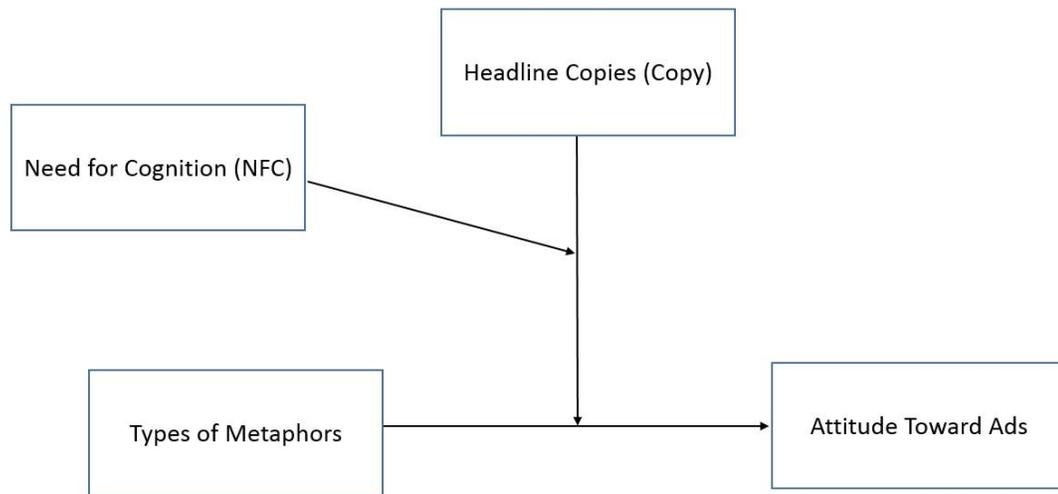
To assess the proposed Hypothesis 3, a PROCESS macro's Model 3 (Hayes, 2012) was employed with dependent variables being consumers' ad and brand attitudes and purchase intention, controlling for the difficulty of the ads as a covariate. Hypothesis 3 states that consumer's level of Need for Cognition (NFC) significantly influences ad effectiveness (i.e., Attitude toward ad, Attitude toward brand, and Purchase intention) as a moderation hypothesis. To test the three-way interaction; the types of pictorial metaphors x headline copy x NFC composition interaction, Hayes' (2012) SPSS macro, specifically Model 3 (Shrout & Bolger, 2002; Preacher et al., 2007; Hayes, 2013), with 5,000 bootstrap samples and a 95% confidence level (CI) (Hayes, 2013), were used to conduct a moderated moderation analysis.

Hayes (2012) refers to PROCESS model 3 as a "moderated moderation" analysis, intended to determine whether the effects of an independent variable interact

with the effects of two other variables (moderators). The decision to enter Copy and NFC as moderators and Type of visual metaphors as the independent variable was theoretical and the three-way interaction would be significant regardless of which variables were entered as moderators and which were entered as the IV (the independent variable). In short, the PROCESS macro uses ordinary least squares regression to estimate the coefficients for each predictor and their interactions. PROCESS model 3 is useful in determining the significance of the interactions between and among an independent variable and two moderators (see Figure 3-2).

Hayes' (2012) macro includes three levels which are referred to as "low," "moderate," and "high" and are centered around the means, that is, the mean and  $\pm 1$  SD from the mean for the IV and each moderator. Confidence intervals provided a basis for estimating whether, at each NFC level within each Copy level, type of visual metaphors (i.e., implicit and explicit) were significantly related to composite scores. Effects were considered significant when confidence intervals did not contain zero (Hayes, 2012). In the results presented below, LLCI and ULCI refer to lower level and upper level confidence interval, respectively.

To test Hypothesis 3 that the ads with implicit metaphors would "directly" affect more positive responses when the ad has a headline copy that illustrated it, the type of visual metaphors (i.e., implicit and explicit metaphors) was entered as an independent variable, headline copy was entered as one moderator, and NFC was entered as a second moderator (Figure 3-2). The difficulty of the ads was entered as a covariate.



PROCESS Model 3

Figure 3-2. PROCESS Model 3 (Hayes, 2012) – Moderated Moderation Analysis

The PROCESS (Model 3) results indicate a marginally significant three-way interaction among types of visual metaphors, headline copies, and NFC (Need for Cognition) on only Purchase Intention among three DVs,  $B = .37$  ( $SE = .20$ ),  $t = 1.82$ ,  $p = .07$  (LLIC/ULCI =  $-.0300/.7593$ ), thus supporting H3 partially for the level of NFC on Purchase Intention (see Table 3-13). There were no significant effects or interaction ( $p > .1$ ) on Attitude toward the ad and Attitude toward the brand, but marginally significant interaction effects of types of visual metaphors on Purchase Intention were found.

The three-way interaction on Purchase Intention indicated that the effects related to Type of visual metaphors differed by levels of Headline Copy and NFC. These findings, depicted in Figure 3-3 and 3-4 support Hypothesis 3 that Headline Copy and NFC have an influence on purchase intention in terms of the effects of visual metaphors.

As one of the dependent variables was Purchase Intention, regression analysis revealed that type of metaphor, headline copy, NFC, their interactions, and the covariate, and difficulty of the ad explained 25% of the variance in composite scores,  $F(8, 243) = 10.04, p < .001$ . The main effect of pictorial metaphor types was significant,  $B = .74 (SE = .21), t = 3.54, p < .001$  (LLCI/ULCI = .3265/1.1466), but the effects of headline copy and NFC were not significant ( $ps > .1$ ). The covariate, difficulty of the ad, had a significant effect on Purchase Intention,  $B = -.33 (SE = .06), t = -5.43, p < .001$  (LLCI/ULCI = -.4538/-.2120). All two-way interactions were not significant ( $ps > .1$ ), but the three-way interaction between type of metaphor, copy, and NFC was marginally significant,  $B = .37 (SE = .20), t = 1.82, p = .07$  (LLCI/ULCI = -.0300/.7593) on purchase intention.

As a marginal significant effect of three-way interaction was found, PROCESS Model 3 revealed conditional effects of type of metaphor on Purchase Intention based on the pick-a-point approach (Hayes, 2012). Under the low NFC, there was a significant difference between implicit and explicit metaphor when the ad involved headline copy,  $Effect = 1.17 (SE = .38), t = 3.12, p < .01$  (LLCI/ULCI = .4315/1.9166). More specifically, under the condition of the ad using headline copy, when people who had low NFC were exposed to explicit metaphor, they had higher levels of purchase intention ( $M = 5.26$ ) than when those who had low NFC exposed to implicit metaphor ( $M = 4.08$ ). In contrast, under the high NFC condition, there was a significant difference between implicit and explicit metaphor when no copy existed in the ad,  $Effect = .98 (SE = .38), t = 2.61, p < .01$  (LLCI/ULCI = -.2406/1.7202). More specifically, under the condition of no-copy in the ad, when people who had high NFC were exposed to explicit metaphor ( $M = 5.38$ ), they

had a higher level of purchase intention than when those who had high NFC exposed to implicit metaphor ( $M = 4.40$ ).

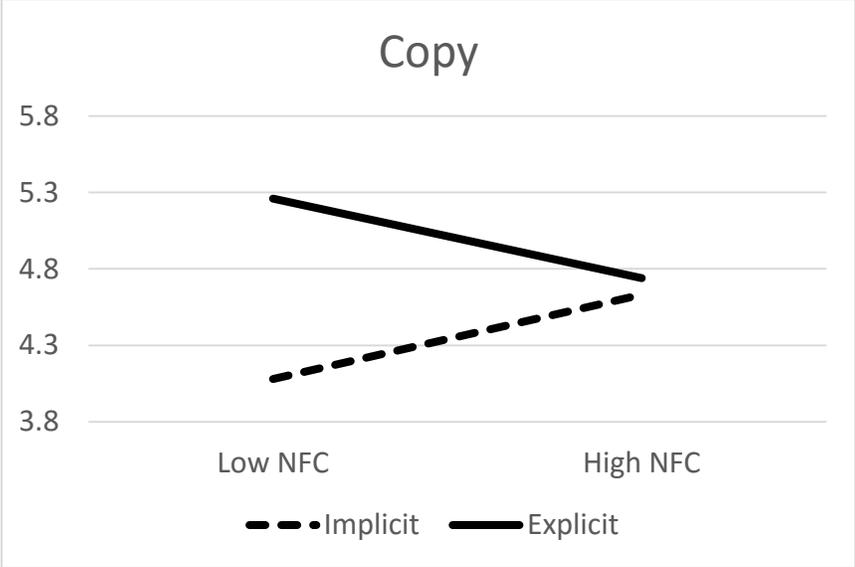


Figure 3-3. Three-way Interaction Effect on Purchase Intention

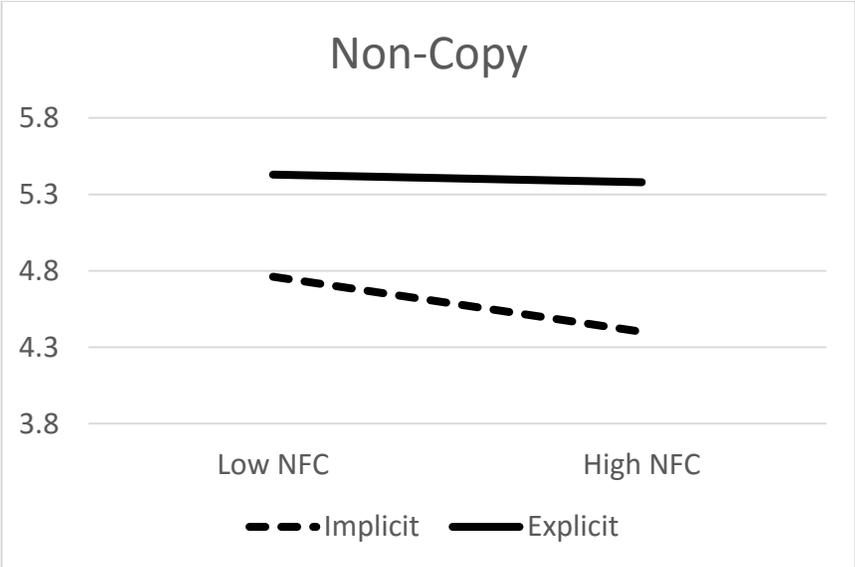


Figure 3-4. Three-way Interaction Effect on Purchase Intention

Table 3-14. PROCESS Model 3 Results on Purchase Intention

Variable	<i>B</i>	<i>se</i>	<i>t</i>	LLCI/ULCI
Copy	.3126	.1921	1.6272	-.0658/.6909
Type of visual metaphor	.7366	.2082	3.5384 *	.3265/1.1466
Type of metaphors x Copy	.1785	.3819	.4675	-.5737/.9307
NFC	-.0258	.0508	-.5071	-.1258/.0743
Type of metaphors x NFC	-.0947	.1001	-.9458	-.2918/.1025
Copy x NFC	-.0647	.1005	-.6432	-.2627/.1334
Type of metaphors x Copy x NFC	.03647	.2003	1.8202 <sup>a</sup>	-.0300/.7593

Note: \*  $p < .05$ , a. marginally significant  $p = .07$

Table 3-15. Moderated Moderation Analysis Results: Effects of Type of Visual Metaphors on Purchase Intention Responding by Copy/Non-copy and NFC level.

			Effect	<i>se</i>	<i>t</i>	LLCI/ULCI
Copy	NFC	Low	1.1741	.3769	3.1149**	.0021/.4316
		High	.1162	.4017	.2893	-.6750/.9075
Non-Copy	NFC	Low	.6670	.3976	1.6774	-.1162/1.4503
		High	.9804	.3756	2.6104**	.2406/1.7202

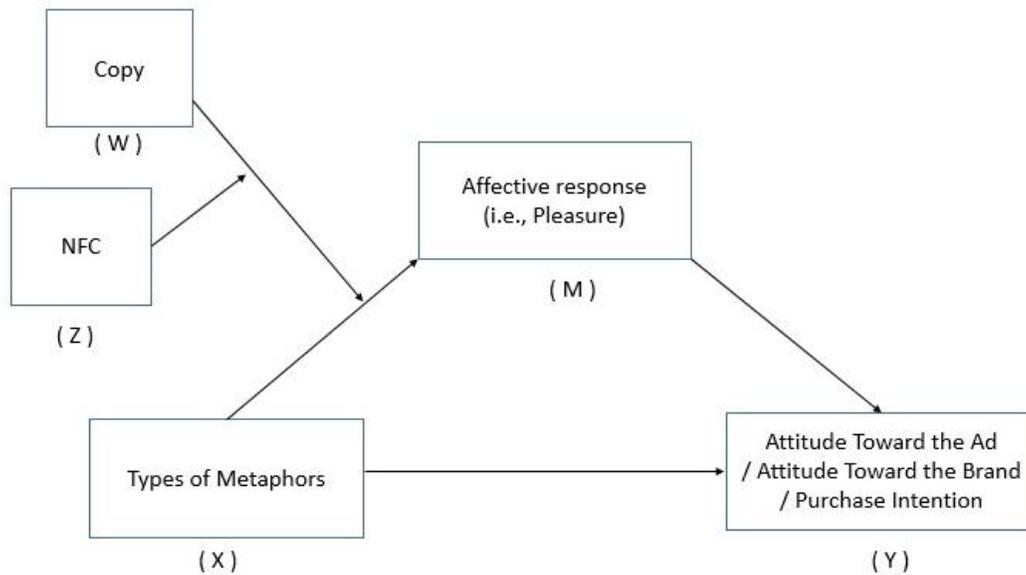
Note: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

### Moderated mediation analysis

To assess Hypothesis 4, mediation analysis was conducted using a temporal frame as the independent variable (temporal frame: 0 = implicit metaphor, 1 = explicit metaphor) and the PROCESS macro (Model 11) for SPSS for bias-corrected

bootstrapping (Hayes 2012; Preacher and Hayes 2004). Bootstrapping was used to generate a 95% confidence interval (CI) around the indirect effect of mediator (i.e., pleasure value of emotion). Successful mediation occurs when the CI does not contain zero (Preacher, Rucker, and Hayes 2007). For the purpose of the moderated mediation tests, the PROCESS macro (Hayes, 2012) was also employed because it verifies moderator-mediator variable effects. Thus, Hayes's (2012) Model 11 was employed whereby X is the independent variable, Y the dependent variable, Mj are the mediator variables and W and Z are two moderator-mediator variables. Hayes's (2012) PROCESS technique that proposes that moderated mediation effects be verified was employed. Namely, there are relations between the indirect effects of independent variable X before the dependent variable Y, via the mediator variable M and moderator variables W and Z.

To examine Hypothesis 4, Ad Attitude, Brand Attitude, and Purchase Intention were respectively defined as the dependent variables (DV), Type of visual metaphors as the independent variable (IV), consumers' emotional response as mediator variable (M), Headline Copy as moderator variable (W) and Need for Cognition was also set as a moderator variable (Z) (see Figure 3-5). Hayes's (2012) model 11 enables the specific examination of these moderation effects of Headline Copy (W) and of Need for Cognition (Z) via mediator effect of consumers' emotional responses (M) between visual metaphors (X) and each dependent variable, ad attitude, brand attitude, and purchase intention (Y). Thus, the intent is to verify the previously specified hypothesis, H 4.



PROCESS Model 11

Figure 3-5. PROCESS Model 11 (Hayes, 2012) – Moderated Mediation Analysis

### **Moderated mediating effect of pleasure**

The current study predicted that pleasure in affective responses would mediate the effect of metaphor type, headline copy, and individual differences in NFC on Ad Attitude, Brand Attitude, and Purchase Intention. Since consumers who have high NFC may have less pleasure when they are presented with a pictorial metaphor ad with copy and consumers who have low NFC may also have less pleasure when they are exposed to pictorial metaphor ad without headline copy on the ad, the current study proposes moderated mediating effect of affective response on dependent variables. Thus, PROCESS model 11 was employed to test the moderated mediation. First, the current study employed three-way interaction between type of metaphor, copy, and NFC on pleasure as the outcome variable. The difficulty of the ad was added as a covariate. The results revealed that there were significant main effects from the type of

metaphor,  $B = 1.90$  ( $SE = .72$ ),  $t = 2.66$ ,  $p < .01$  (LLCI/ULCI = .4941/3.3127) and copy,  $B = 1.64$  ( $SE = .74$ ),  $t = 2.22$ ,  $p < .05$  (LLCI/ULCI = .1824/3.0881). The covariate, difficulty of the ad also had a significant effect,  $B = -.31$  ( $SE = .05$ ),  $t = -6.41$ ,  $p < .001$  (LLCI/ULCI =  $-.4060$ / $-.2152$ ). Moreover, there was a significant two-way interaction between copy and NFC,  $B = -.23$  ( $SE = .11$ ),  $t = -2.01$ ,  $p < .05$  (LLCI/ULCI =  $-.4539$ / $-.0042$ ), but other two-way interactions did not exist in any significant manner ( $ps > .1$ ). Three-way interaction was marginally significant,  $B = .29$  ( $SE = .16$ ),  $t = 1.80$ ,  $p = .07$  (LLCI/ULCI =  $-.0267$ / $.5961$ ). Therefore, bootstrapping techniques were employed to test conditional indirect effects on each dependent variable (Hayes 2012; Preacher et al., 2007).

### **Ad attitude**

First of all, the test of moderated mediating effect of pleasure was used by Gilbert, Fiske, & Lindzey's (1998). They created a pleasure value of emotion scale using adjective words such as pleasure, enjoyment, entertainment, and fun. Bootstrapping techniques of conditional indirect effects showed the mediating effect of pleasure as a value of emotion depending on conditions. The conditional indirect effect of type of metaphor on Ad Attitude was significant when consumers who had low NFC were exposed to a headline copy (effect = 1.03) and no headline copy (effect = .57) because the confidence interval for indirect effect excluded zero (CI for copy = .4866 to 1.5689, CI for non-copy = .0413 to 1.1548). In addition, the conditional indirect effect of type of metaphor on Ad Attitude was significant when consumers who had high NFC were exposed to the ad with no copy on the pictorial metaphor ad (effect = .92) because the confidence interval for indirect effect also excluded zero (CI = .3464 to 1.4884). However, when consumers who had high NFC were exposed to the ad with a headline

copy, the pleasure value of emotion did not mediate the effect of type of metaphor on Ad Attitude (effect = .4040, CI = -.1958 to 1.0053) (see Figure 3-6). The results revealed that consumers who had high NFC did not feel pleasure or entertainment very much to influence results on ad attitude playing a role of mediator when they were exposed to the pictorial metaphor ad with copy. Therefore, the pleasure value of emotion (e.g., pleasure or entertainment) did not mediate the relationship between visual metaphor and consumers' ad attitude at that condition.

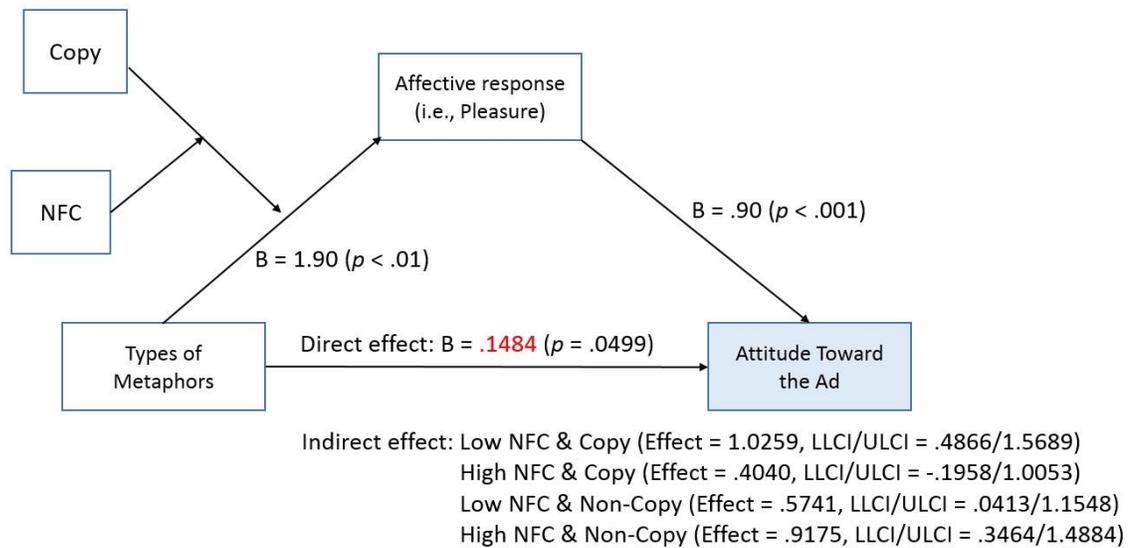


Figure 3 -6. Conditional Indirect Effect on Attitude Toward the Ad

### Brand attitude

Bootstrapping techniques of conditional indirect effects proposed the mediating effect of the pleasure value of emotion depending on conditions. The conditional indirect effect of type of metaphor on Brand Attitude was significant when consumers who had low NFC were exposed to the metaphor ad with headline copy (effect = .97) and no

headline copy (effect = .54) because the confidence interval for indirect effect excluded zero (CI for copy = .4618 to 1.5001, CI for non-copy = .0381 to 1.0844). Moreover, the conditional indirect effect of type of metaphor on Brand Attitude was significant when consumers who had high NFC were exposed to the ad with no copy in the pictorial metaphor ad (effect = .87), because the confidence interval for indirect effect also excluded zero (CI = .3346 to 1.4217). However, pleasure value of emotion did not mediate the effect of type of metaphor on Brand Attitude when consumers who had high NFC were presented with the ad with headline copy (effect = .38, CI = -.1843 to .9625) (see Figure 3-7). The results revealed that consumers who had high NFC did not feel pleasure or entertainment when they were exposed to the pictorial metaphor ad with copy so that pleasure value of emotion (e.g., pleasure or entertainment) did not mediate the relationship between metaphor and the consumers' brand attitude at that condition.

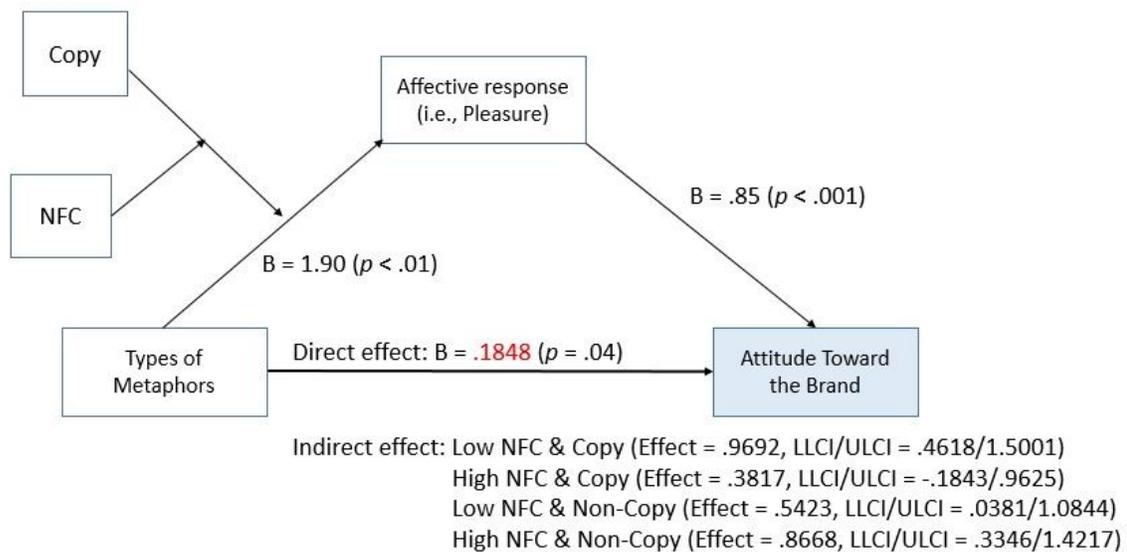
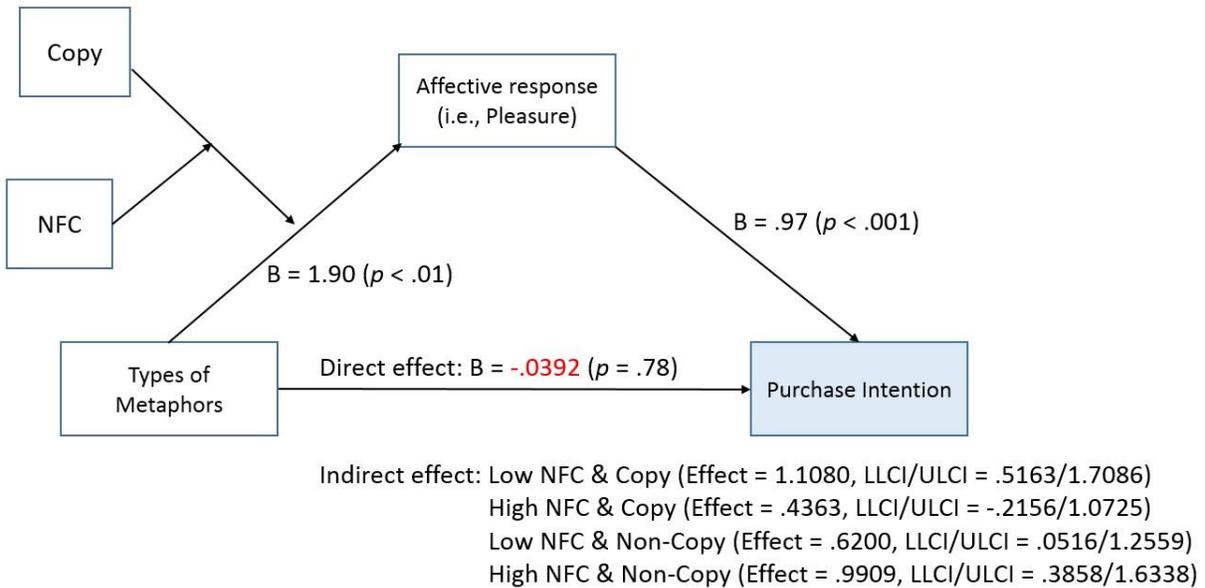


Figure 3-7. Conditional Indirect Effect on Attitude Toward the Brand

## **Purchase intention**

Bootstrapping techniques of conditional indirect effects showed the mediating effect of pleasure depending on conditions. The conditional indirect effect of type of metaphor on Purchase Intention was significant when consumers who had low NFC were exposed to headline copy (effect = 1.11) and no headline copy (effect = .62) because the confidence interval for indirect effect excluded zero (CI for copy = .5163 to 1.7086, CI for non-copy = .0516 to 1.2559). Also, the conditional indirect effect of type of metaphor on Purchase Intention was significant when consumers who had high NFC were exposed to the ad with no copy on the pictorial metaphor ad (effect = .99) because the confidence interval for indirect effect also excluded zero (CI = .3858 to 1.6338). However, affective response did not mediate the effect of type of metaphor on Purchase Intention when consumers who had high NFC were shown the ad with headline copy (effect = .44, CI = -.2158 to 1.0725) (see Figure 3-8). The results indicated that consumers who had high NFC did not feel pleasure when they were exposed to the pictorial metaphor ad with copy so that the pleasure value of emotion did not mediate the relationship between metaphor and the purchase intention of consumers at this particular condition.



PROCESS Model 11

Figure 3-8. Conditional Indirect Effect on Purchase Intention

### Discussion

Experiment 2 examined the interaction effects of pictorial metaphors and mediation effects of pleasure value of emotion on each dependent variable (e.g., attitude toward the ad/the brand, purchase intention) with considering the moderation effect of headline copies and cognitive individual differences (e.g., NFC).

Based on the process of testing from Hypothesis 2 (i.e., headline copy in an implicit or explicit metaphorical ad has a significant impact on ad attitude, brand attitude, and purchase intention), the use of headline copy in metaphorical ads clearly has an influence on the difficulty of the ad. But interestingly, there was no significant effect created by headline copy in metaphorical ads for across all types of products on consumer's attitude or behavioral intention. This is in contrast to the previous research that found headlines in metaphorical ad have a positive effect on attitude toward the ad

and toward the brand (e.g., Bergkvist, Eiderback, & Palombo, 2012) and that suggested the use of a complete headline in metaphorical ads results in more positive effects on brand communications (e.g., Phillips, 2000). Obviously, using headline copy in the ad containing visual metaphors was helpful to decrease the difficulty of understanding what the ad intend to communicate.

As partially expected in Hypothesis 3, the effects of the type of visual metaphor (i.e., implicit versus explicit) were contingent on headline copy and consumers' level of NFC. That is, if the metaphorical ad includes headline copy as a cue for understanding the visual metaphor, explicit metaphors more positively influence purchase intention for low-NFC consumers. Consumers with low NFC are more likely to have greater purchase intention when they are exposed to the ad embedded explicit metaphor with headline copy rather than implicit metaphor with headline copy. Furthermore, even though consumers are in the level of high NFC, if the metaphorical ad does not involve headline copy, explicit metaphors are more likely to elicit greater purchase intention than implicit metaphors. It seems because, even without a verbal cue (i.e., headline copy), the product image embedded in metaphorical ads increases purchase intention even for the consumers in the high NFC.

As anticipated by Hypotheses 4, the results support the role of mediator of pleasure, on consumers' ad attitude, brand attitude, and purchase intention regardless of whether there are ad elements (e.g., headline copy) to aid in understanding of what the ad intended in the metaphorical ad. The findings in the study also indicate that there would be another factor/construct to influence ad effectiveness (i.e., Ad Attitude, Brand Attitude, and Purchase intention) besides consumers' level of NFC. This is in addition to

the use of copy as a cognitive cue when the ad is created by visual metaphors that require thinking process (i.e., cognitive elaboration) for the interpretation of such type of ad messages.

## CHAPTER 4 GENERAL DISCUSSION

### **Conclusion**

Metaphorical expression in visual modality (i.e., visual metaphors) is very common in ads and seems to be very effective in cluttered viewing conditions. That is, visual metaphors apparently draw attention away from the clutter of typical ads and persuade targets in unique ways (Phillips, 2003). In addition, this rhetorical visual expression is highly relevant to advertising creativity which is critical to successful advertising.

Advertising creativity or novelty is an indispensable aspect in promoting stimuli for greater ad effectiveness (Smith, Chen & Yang, 2008). For example, ad creativity or novelty leads to increased ad recall, more favorable ad attitudes, and positive emotional response (Ang, Lee, & Leong, 2007). Advertisers or practitioners agree that the expression of ad elements related to ad creativity is a key component and plays a weighty role in effective ad design for persuasion. Yet, there has been little research on ad expression as a message factor in academic literature. Therefore, advertisers or practitioners face a challenge to choose an appropriate type of creative stimuli to lead to greater ad effectiveness.

The findings of the current study reveal that, compared with implicit metaphors, the ad employing explicit metaphor elicits greater purchase intention at both high and low levels of NFC, but are contingent upon using headline copies in the ad. If consumers have high NFC, when the ad with explicit metaphor is clear about the subject and the product image does not involve headline copy, the ad engenders much higher purchase intention than an ad with implicit metaphor and non-copy does. In

addition, if consumers have low NFC, when the ad with explicit metaphors involve headline copy, the ad provokes greater purchase intention than the ad with implicit metaphors involving headline copy does. However, comparing the mean of the results, the condition of the former (that is, when consumers have high NFC and the ad has explicit metaphors without headline copy) has more positive effects on achieving great purchase intention than the condition of the latter (that is, when consumers have low NFC and the ad has explicit metaphors with headline copy). Furthermore, all findings illustrate that consumers with low NFC need to be actively assisted by the advertised product image with explicit metaphors which show the advertised product in the metaphorical image. This leads to a more successful effect on purchase intention, regardless of the use of headline copy.

In previous research, discussions have elaborated on the fact that imagery processing enhances affective responses to stimuli and behavior (Greenwald & Leavitt, 1984; MacInnis & Price, 1987). The findings of the current study are consistent with these discussions in academia. In support of the discussions, the findings in this study note that an ad with explicit metaphors has a greater impact on consumers' behavioral intention than the ad with implicit metaphors even for the consumers with high NFC (Need for Cognition). In addition, in terms of the effect of the headline copy in the metaphorical ad, there is no effect of copy even in the implicit metaphor ad which is not able to provide consumers any cue to decode the implicit metaphors. That is, for the consumers with low NFC, the ad with explicit visual metaphor has greater impact on purchase intention than the ad with implicit metaphors (regardless of the existence of headline copy). For consumers with high NFC, when the ad has a headline copy, there

is no difference between the ad with explicit and implicit metaphors. However, when the ad does not have headline copy, the ad with explicit metaphors has a much greater impact on purchase intention than the ad with implicit metaphors. According to the current study, pleasure value of emotion in the ad employing visual metaphors plays an important role on the influence of persuasive ad effectiveness.

Visual metaphors in the ad engender much deeper cognitive elaboration of messages, and visual metaphors may need mental imagery processing (MacInnis & Price, 1987; 1990) to contribute to the persuasive effects of the use of visual metaphors besides cognitive motivation (e.g. NFC) and affective response (e.g. pleasure value of emotion). In addition, the effects of visual metaphors were contingent on an individuals' NFC and affective responses (especially, pleasure). For high NFC consumers, visual metaphors enhance purchase intentions when there is no headline copy but the behavioral intention is not mediated by affective responses (i.e., pleasure) if there is headline copy in the ad. That is, under the condition of an ad with headline copy, for high NFC consumers, visual metaphors may not provoke positive affective responses (i.e., pleasure) and thus, they do not provoke greater purchase intention.

When pleasure value of emotion occurs from visual metaphors in the ad and the affective response (i.e., pleasure) mediates the effect of visual metaphors, visual metaphors in the ads enhance persuasive ad effectiveness for consumers with low level of NFC regardless of the use of headline copy in the ad. This illustrates the persuasive effects of metaphorical expression which may be due to the characteristic of visual metaphors themselves and arises out of cognitive verbal cues for the understanding of such types of messages. The findings were relevant to previous research (e.g.,

Haugtvedt, Petty, & Cacioppo, 1992; Petty & Cacioppo, 1986) which indicated that the responses of low NFC consumers to visual metaphors were less influenced by the cognitive cues of the message (i.e., headline copy).

The findings of the current study reveal that when using visual metaphors in the ad, it is important to evoke emotional responses, especially pleasure, through tension and relief to decode, in order to elicit more positive consumers' attitude toward the ad, the brand, and purchase intention. Early research suggested that affective priming of the ad context, such as affective tone of the article, significantly influenced advertising effectiveness (Batra & Stayman, 1990). The pleasure of metaphoric information processing provides sufficient interest to elicit greater ad effectiveness for the advertised products.

Taken together, all findings indicate that there may be an advantage to using explicit metaphors with headline copy for low NFC target consumers or without headline copy for high NFC target consumers. However, only when consumers feel the pleasure value of emotion from the visual metaphors in the ad does the use of such metaphors lead to greater ad effectiveness from even low NFC consumers on purchase intention, even though a metaphorical ad does not involve headline copy.

### **Theoretical Implications**

Previous research such as Mitchell and Olson's (1981) study illustrated that visual arguments are more persuasive than verbal arguments. Furthermore, Jeong's (2008) study demonstrated that metaphorical images without verbal argument in the ad were more effective than non-metaphorical images with verbal argument on cognitive elaboration and source credibility. The researcher also found that there were significant differences between the ad with visual metaphor images and the ad with non-metaphor

images with regard to attitude toward the ad. But there were no significant differences between the ad which employed metaphorical image with copy and the ad which employed a metaphorical image without accompanying verbal copy. However, the findings in the previous studies related to metaphorical expression in visual modality (i.e., visual metaphors) seemed to differ according to outcomes (e.g., dependent variables) and by advertised product types.

The current study attempted to test which conditions associated with the use of two types of visual metaphors work to positively influence on consumers' attitudes and purchase intention. The research also considered both cognitive and affective responses and determined the conditional impact of the ads by the type of visual metaphors and individual difference. The most important contribution of the present research is that the findings have confirmed the mediating effect of the pleasure value of emotion for the metaphorical ad when considering both consumers' cognitive and motivational aspect (i.e., Need for Cognition) and affective aspect, thereby verifying the effect of visual metaphors. Moreover, another contribution of the current study is to investigate the effects of two types of visual metaphors in ads, considering the ads applied to all product types (Vaughn, 1980). This could then improve the external validity of the study.

The findings of Experiment 1 are consistent with previous research (Gkiouzepas & Hogg, 2011; Mitchell & Olson, 1981) and prove once again that visual metaphors in the ad are an effective persuasion strategy. However, in contrast to the previous studies, this study clearly tested whether the effects of visual metaphors occur in the ads across all products. The current study confirms that the ad using metaphorical

images is more persuasive changing consumers' attitudes toward the ad positively and increases their purchase intention compared to the ad with non-metaphorical images, especially, across all product types by FCB grid model (Vaughn, 1980). In addition to the support of Experiment 1, Experiment 2 suggests that a type of visual metaphor with verbal copy in the ad may lead to greater persuasive effects with regard to purchase intention, depending on the viewers' cognitive tendency (e.g., NFC). The findings of Experiment 2 also include why the effects of using visual metaphors and headline copies may vary by level of consumers' NFC.

The results of the current study are more specific than previous research (e.g. Chang & Yen, 2013; Haugtvedt, Petty, & Cacioppo, 1992). According to the level of NFC, the results provided further evidence for the effect of using visual metaphors in ads when considering headline copy. The current study used ELM and NFC (Brennan & Bahn, 2006; Chang & Yen, 2013; Haugtvedt, Petty, & Cacioppo, 1992) and relevance theory (Sperber & Wilson, 1995, 2004) to explain the relationship between headline copy in ads and consumers' level of NFC in response to the type of visual metaphors such as explicit exhibition of the product image in the metaphorical ad.

When facing an advertised product image in visual metaphors such as explicit metaphor, consumers with high NFC may not need headline copy to be persuaded more positively. However, for consumers with low NFC, the exhibition of the product image in the metaphorical ad is not enough to assist with persuasion of consumers with low NFC in managing information efficiently (e.g., information processing). Therefore, consumers with low NFC need another ad element, headline copy, to assist with their persuasion. When the ad does not involve headline copy, even if consumers have high

levels of NFC, implicit metaphors might be too difficult or complex to persuade consumers enough. Moreover, there was no significant effect under the condition with both implicit metaphor and headline copy for consumers with high levels of NFC. This infers that response to implicit visual metaphor might be more influenced by other constructs such as imagery processing abilities (MacInnis & Price, 1987), not only by cognitive elaboration or cognitive motivational factors (e.g., NFC).

Based on findings from testing of Hypothesis 2, 3 and 4, cognitive tendency (i.e., Need for Cognition) and emotional response might be important factors in interpreting visual metaphors in ads and persuading consumers of the positive effect of visual metaphors in the ad. The findings suggest that there might be multiple criteria to explain the ad effect of visual metaphors and there might be other factors which should be considered when determining the effect of visual metaphors such as imagery processing abilities (MacInnis & Price, 1987).

The findings in Hypotheses 2 and 3 reveal that the ads using implicit metaphors seem to provide more essentials for imagination, thereby increasing cognitive elaboration of the ad message. Research on individual differences in information processing has illustrated a cognitive impact in consumer behavior (Batra & Stayman, 1990; Petty & Cacioppo, 1986). Information processing consists of two factors: ability and preference (Childers, Huston, & Hecker, 1985). Individuals apply an information processing strategy based on their preferences and their cognitive ability. The study of individual differences in information processing was extended to the one in mental imagery processing (Childers & Houston, 1983; Lutz & Lutz, 1978; MacInnis & Price, 1987; 1990; Rossiter, 1982). Mental imagery is defined as “a mental event involving

visualization of a concept or relationship” (Lutz & Lutz, 1978: p 611). Individual differences in imagery information processing can have significant influences on the range of cognitive performance such as memory, perception, learning, and problem solving (Ernest, 1977). Imagery processing is evoked as internal sensory experiences in working memory (MacInnis & Price, 1987). Moreover, imagery information processing involves perceptual representations of ideas, feelings, and memories within working memory, and also allows for direct recovery of past experiences (MacInnis & Price, 1987). Imagery processing, therefore, involves intuitive and empirical support (MacInnis & Price, 1987).

The literature about individual differences in imagery processing states that mental imagery can improve memory for product-related information (Childers & Houston, 1983; Lutz & Lutz, 1978; Rossiter, 1982) and mental imagery is also more likely to arouse favorable attitudes (MacInnis & Price, 1990). Additionally, imagery may play a significant role in forming cognitive elaboration (Greenwald & Leavitt, 1984) and thus, it contributes to the formation of consumer attitudes (Rossiter & Percy, 1978; 1980). According to MacInnis and Price (1987), mental imagery processing provides high elaboration processing and, consequently, this is considered a factor to improve communication effectiveness. In addition, it is influenced by individual differences in mental imagery processing ability. Therefore, in addition to the level of NFC, it would be important to consider consumers’ mental imagery ability to evaluate the extent to which visual metaphors are expressed in the ad image, or which features should be included in a visual metaphor ad for successful persuasion.

From the point of view of imagery processing, visual metaphors have a story associated with the product benefits. These stories are more helpful for consumers who have high imagery processing ability and who are able to generate their mental imagery well. In this light, visual metaphors seem to be more effective for consumers who can translate the meaning into vivid mental imagery. As a result, cognitive tendency to enjoy the thinking process (i.e., NFC) would only be one of the factors necessary to influence the effectiveness of the ad employing visual metaphors. Adding to cognitive tendency (i.e., NFC), imagery processing ability should be considered as a critical factor that has influence on persuasive advertising effectiveness such as consumers' attitudes and behavioral intention.

### **Practical Implications**

The results of the current study provide several meaningful managerial implications for advertisers. First, the current investigation reveals that ads employing visual metaphors across all types of products have great impact on consumers' purchase intention. In particular, explicit visual metaphors including headline copy are more likely to positively influence consumers who do not enjoy thinking deeply or solving problems. Therefore, in terms of creative strategy, if visual metaphors are employed in the promotional ad, more positive effects in consumers' behavioral intention could be expected, considering target characteristics. However, even though consumers tend to have the characteristic of low NFC, if they feel pleasure value from visual metaphors, this has a positive influence on purchase intention regardless of the use of headline copy in the ads. Generally, advertisers or marketers should consider visual modality (e.g., visual metaphor or non-metaphor) and know when they should apply specific rhetoric styles (e.g., explicit or implicit visual metaphor) to the ad with a

headline copy, considering various product types which were interspersed for four product categories according to the FCB model (Vaughn, 1980).

Second, advertisers or marketers may apply visual metaphors to the ad according to targeted consumers while considering their level of NFC. For example, in terms of ad placement strategy, advertisers may apply visual metaphors to the different kinds of media placement contingent on targeting literate, well-educated people who have a tendency to enjoy the thinking process, with the hope that these consumers will notice, consider, recognize, and develop greater behavioral intention. This may cause greater purchase intention when using visual metaphors in ads. One method of increasing advertising effectiveness is to choose an appropriate target media such as TIME or PEOPLE magazine when using metaphorical ad images, or to employ unique ad-related features (Sierra, Heiser, & Torres, 2012) considering different types of visual metaphors within the ad.

Third, when using visual metaphors in the ad, marketers and advertising practitioners should consider emotional responses (e.g., pleasure) as a critical antecedent, which is related to favorable advertising effectiveness. Feelings of pleasure from the metaphorical ads may improve advertising results. The current investigation shows the important role of pleasure value of emotion between tension and relief while decoding the meaning of the metaphorical ads for greater persuasive advertising effectiveness. The ad should then employ visual metaphors to elicit great pleasure feeling from decoding the metaphorical ads in order to develop these positive ad results. Fourth, the present study provides guidance in the development of creative strategies on how to frame a visual approach using two types of metaphors (explicit or implicit)

with or without verbal elements by target consumers across all categories of product involvement.

### **Limitations and Suggestions for Future Research**

Several limitations of this research must be acknowledged. First, the research shares common weaknesses of experimental studies, such as an artificial situation used when approaching participants with a lot of ads simultaneously. At the same time, an attempt was made to cover various product categories in the ads. Therefore, the internal validity such as experimental mortality or maturation, is a concern. Second, this study was conducted using real advertisements to verify the creative quality of the ads. Thus, the ad stimuli did not have one message feature such as a specific tone and manner. Therefore, another confounding factors could occur through the use of a lot of ad stimuli in each type of visual metaphor with various messages in tone and manner. Third, there could be a possibility of finding other confounding factors that influence consumers to change their attitudes or behavioral intention. These could include the degree of imagery processing (Childers & Houston, 1983) ability, the degree of congruence of visual metaphors and product benefits, and product knowledge. One of these factors, such as the level of product knowledge, could be a possible moderator in future studies because it could facilitate the ability to decode visual metaphors in the ads.

In this regard, future research could consider individual differences in imagery processing ability (MacInnis & Price, 1987) and the level of advertised product knowledge for each advertised product as a confounding factor (e.g., covariate) or moderator. Moreover, future research needs to focus on identifying various factors that have an influence on the effectiveness of the ad involving visual metaphors, such as

imagery processing ability (MacInnis & Price, 1987). Future studies may consider creating the ad stimuli with the same tone and manner in both types of visual metaphors to gain better internal validity. Also, given the many positive effects of visual metaphors identified in the literature, it is important to consider target consumers' cognitive tendencies and whether or not to use headline copy when deciding which types of visual metaphors to employ in an ad.

The current research extends visual communication study onto advertising effects in several aspects across all types of advertised products. This study incorporates the analysis of visual metaphor in investigating the influences of two critical aspects of ad content: cognitive responses that provoke elaborated decoding processing, and affective responses that induce positive emotion such as pleasure, entertainment, or enjoyment.

APPENDIX A  
QUESTIONNAIRES

For Experiment 2

We would appreciate it if you would take some time to complete this simple survey. This should be take about 15 minutes of your time and your results will be completely anonymous.

Your responses are important to us so we know how we can better improve our efforts. The main objective of this research is to get your reactions to magazine advertisements and your behavior. These advertisements are for products or brands in the world market.

Therefore, first, you will be asked about yourself, and then you will be given magazine advertisements.

Before you evaluate or rate the advertisement, please take a moment and review the advertisements very carefully.

The following advertisement is for an **automobile product** in the world market. Please take a moment and review the advertisement.

**[Place an implicit/explicit metaphor ad about here]**

Is the advertised product (a car) showing or integrated into the main metaphoric image in this ad? (Excluding the small product image at the bottom of the ad)

Yes, it is.

No, it is not.

**When you see the above advertisement and understand what the ad intends, how much do you feel** one of each emotion below?

Displeasure	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Pleasure
enjoyment	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Not enjoyment
Not entertainment	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	entertainment
Fun	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Not Fun

The following questions are asking for your opinion on the ad which you have seen.

Overall, I consider the ad above to be \_\_\_\_\_.

Bad	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Good
Favorable	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Unfavorable
Unpleasant	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Pleasant

The following questions are asking for your opinion on the brand which you have seen.

Overall, I consider the brand above to be \_\_\_\_\_.

Bad	—	:	—	:	—	:	—	:	—	:	—	:	—	Good
	—		—		—		—		—		—		—	
Favorable	—	:	—	:	—	:	—	:	—	:	—	:	—	Unfavorable
	—		—		—		—		—		—		—	
Unpleasant	—	:	—	:	—	:	—	:	—	:	—	:	—	Pleasant
	—		—		—		—		—		—		—	

After seeing this advertisement, it may encourage me to purchase this product next time.

very unlikely	—	:	—	:	—	:	—	:	—	:	—	:	—	very likely
	—		—		—		—		—		—		—	
probable	—	:	—	:	—	:	—	:	—	:	—	:	—	improbable
	—		—		—		—		—		—		—	
impossible	—	:	—	:	—	:	—	:	—	:	—	:	—	possible
	—		—		—		—		—		—		—	

**Need for Cognition** (Cacioppo, Petty, & Kao, 1984)

Next, you will be given a list of character traits which best represents you.

*Please consider the following lists of character traits, and click the button that describes you.*

		Strongly Disagree												Strongly Agree
	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:
1. I prefer complex to simple problems.	_____		_____		_____		_____		_____		_____		_____	
	1		2		3		4		5		6		7	

		Strongly Disagree												Strongly Agree
	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:
2. I like to have to do a lot of thinking	_____		_____		_____		_____		_____		_____		_____	
	1		2		3		4		5		6		7	

		Strongly Disagree												Strongly Agree
	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:
3. I don't avoid situations that require thinking in depth about something.	_____		_____		_____		_____		_____		_____		_____	
	1		2		3		4		5		6		7	

		Strongly Disagree												Strongly Agree
	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:
4. I prefer to do something that challenges my thinking abilities rather than something that requires little thought.	_____		_____		_____		_____		_____		_____		_____	
	1		2		3		4		5		6		7	

5. Thinking hard and for a long time about something gives me satisfaction. \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_  
 1 2 3 4 5 6  
 7

The following are demographic questions that will only be used for statistical analyses. Have you participated in this study before? (your response to this question will not influence your credit for participation)

- Yes
- No
- Maybe

What is your gender? Female \_\_\_\_\_ Male \_\_\_\_\_

What is your age? \_\_\_\_\_

My highest level of education is:

- Some high school
- High school graduate
- Some college
- College graduate
- Graduate degree
- Other

How would you classify yourself?

- Anglo American / Caucasian \_\_\_\_\_
- African American \_\_\_\_\_
- American Indian / Native American \_\_\_\_\_
- Asian American \_\_\_\_\_
- Hispanic / Latino \_\_\_\_\_
- Multiracial \_\_\_\_\_
- Other (Please specify \_\_\_\_\_)

APPENDIX B  
EXPERIMENTAL AD STIMULI

All ad stimuli have been modified or re-created and the original image resources come from google images.

**Ad stimuli used in Experiment 1 by product types (Non-Metaphor vs. Metaphor)**  
(Visual Metaphor) ad stimuli by product types – total number of ads: 12

Involvement	Think		Feel
	1 Informative	2 Affective	
High involvement	<p><b>Blender mixer</b></p>  <p>The original image: WALITA ad (2016). Retrieved from <a href="https://www.pinterest.com/pin/308426274455188663/">https://www.pinterest.com/pin/308426274455188663/</a></p>	<p><b>Cosmetic</b></p>  <p>The original image: Olay UK ad (2016). Retrieved from <a href="http://www.wired.com/2007/04/cosmetic_compan/">http://www.wired.com/2007/04/cosmetic_compan/</a></p>	
	<p><b>Car</b></p>  <p>The original image: Jeep ad (2016). Retrieved from <a href="https://www.pinterest.com/pin/113082640616697457/">https://www.pinterest.com/pin/113082640616697457/</a></p>	<p><b>Outdoor shoes</b></p>  <p>The original image: North Face poster (2016). Retrieved from <a href="http://www.doctordisruption.com/wp-content/uploads/2012/09/Designed_for_professionals2.jpg">http://www.doctordisruption.com/wp-content/uploads/2012/09/Designed_for_professionals2.jpg</a></p>	

Grass trimmer



The original image: STIHL ad (2016). Retrieved from <https://www.pinterest.com/pin/562105597213427256/>

Underwear



The original image: Wonderbra ad (2016). Retrieved from <https://adsoftheworld.com/forum/2057>

3 Habit-formation

Laundry detergent



The original image: Ariel ad (2016). Retrieved from <https://www.coloribus.com/adsarchive/prints/ariel-m-zim-5-bulb-10639855/>

4 Self-satisfaction

Candy



The original image: Juice-candy (2016). Retrieved from <https://nickglauth.wordpress.com/advertising-ads/#jp-carousel-58>

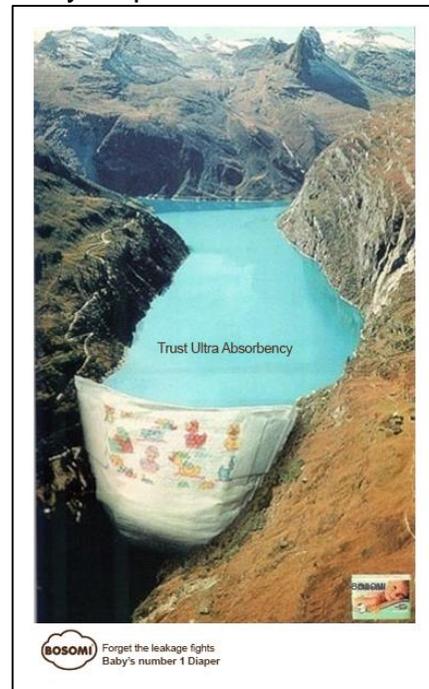
Low involvement

### Lint roller



The original image: 3M (2016).  
Retrieved from <http://theinspirationroom.com/daily/2012/3m-lint-roller-pets/>

### Baby diapers



The original image: Milette ad (2016).  
Retrieved from <https://www.coloribus.com/adsarchive/prints/unknownadvertiser-milette-2533405/>

### Hot sauce



The original image: Tabasco (2016).  
Retrieved from <https://www.pinterest.com/pin/128071183130068107/>

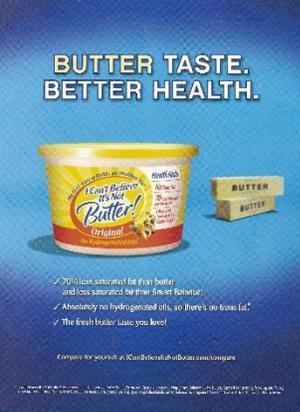
### Beverage



The original image: Brämhults-Swedish ad (2016). Retrieved from <http://www.ateriet.com/clever-juice-ads-for-bramhults/>

(Non-Metaphor) ad stimuli by product types – total number of ads: 12

Involve ment	Think	Feel
	1 Informative	2 Affective
High involve ment	<p>T.V.</p>  <p>The original image: Baumann Meyer (2016). Retrieved from <a href="http://www.baumannmeyer.com.au/marketing.htm">http://www.baumannmeyer.com.au/marketing.htm</a></p> <p>Car</p>  <p>The original image: Honda ad (2016). Retrieved from <a href="http://indianautosblog.com/2013/04/honda-amaze-garners-over-6000-bookings-71729">http://indianautosblog.com/2013/04/honda-amaze-garners-over-6000-bookings-71729</a></p> <p>Vacuum-cleaner</p> 	<p>Cosmetic (Lip Balm)</p>  <p>The original image: MAYBELLINE (2016). Retrieved from <a href="https://dejuanawilliams.wordpress.com/2015/08/">https://dejuanawilliams.wordpress.com/2015/08/</a></p> <p>Jean</p>  <p>The original image: Google images (2016). Created and modified Retrieved from <a href="https://www.toovia.com/posts/2014/jul/03/0.13503.407356837261017098">https://www.toovia.com/posts/2014/jul/03/0.13503.407356837261017098</a></p> <p>Shoes</p>  <p>The original image: Bata ad (2016). Retrieved from <a href="https://www.behance.net/gallery/7672579/Bata-print-ads">https://www.behance.net/gallery/7672579/Bata-print-ads</a></p>

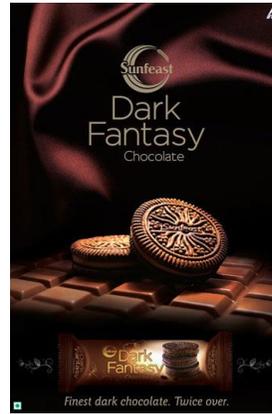
	<p>The original image: Electrolux ad (2016). Retrieved from <a href="https://www.choice.com.au/products/home-and-living/laundry-and-cleaning/vacuum-cleaners/electrolux-ergorapidolithium-2in1-zb3012">https://www.choice.com.au/products/home-and-living/laundry-and-cleaning/vacuum-cleaners/electrolux-ergorapidolithium-2in1-zb3012</a></p>	
<p>Low involve ment</p>	<p>3 Habit-formation</p>	<p>4 Self-satisfaction</p>
	<p>Laundry detergent</p>  <p>The original image: Google images (2016). Created and modified. Retrieved from <a href="https://www.masterfile.com/stock-photo-search/en/clean+clothes">https://www.masterfile.com/stock-photo-search/en/clean+clothes</a></p> <p>Toothpaste</p>  <p>The original image: Aquafresh (2016). Created and modified. Retrieved from <a href="https://www.buzzfeed.com/copyranter/really-gross-print-ads?utm_term=.hIAw1Wx6#.hj74VBjO">https://www.buzzfeed.com/copyranter/really-gross-print-ads?utm_term=.hIAw1Wx6#.hj74VBjO</a></p>	<p>Butter</p>  <p>The original image: Google images (2016). Retrieved from <a href="http://8thgradeelapersuasiveunit.wikispaces.com/file/view/butter.jpg">http://8thgradeelapersuasiveunit.wikispaces.com/file/view/butter.jpg</a></p> <p>Beverage</p>  <p>The original image: Glenfiddich (2016). Retrieved from <a href="https://www.pinterest.com/pin/316237205061078469/">https://www.pinterest.com/pin/316237205061078469/</a></p>

**Baby diapers**



The original image: Pampers (2016). Retrieved from <http://strategyonline.ca/2010/12/01/moypampers-20101201/>

**Chocolate**



The original image: Sunfeast Dark Fantasy chocolate (2016). Retrieved from <http://nazninazeez.com/2012/07/18/review-sunfeast-dark-fantasy-chocolate-biscuit/>

**Ad Stimuli used in Experiment 2 by product types (Implicit vs. Explicit Metaphor) (Implicit Metaphor) ad stimuli by product types – total number of ads: 12**

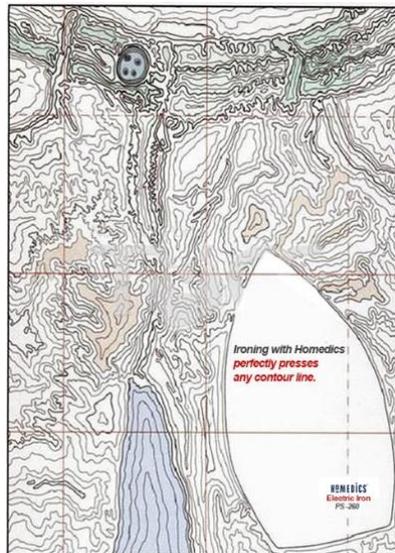
Involvement	Think		Feel
	1 Informative	2 Affective	
High involvement	<p><b>Car</b></p> <p>The original image: Jeep ad (2016). Retrieved from <a href="https://www.pinterest.com/pin/113082640616697457/">https://www.pinterest.com/pin/113082640616697457/</a></p>	<p><b>Eye-wear (glasses)</b></p>	

## Blender mixer



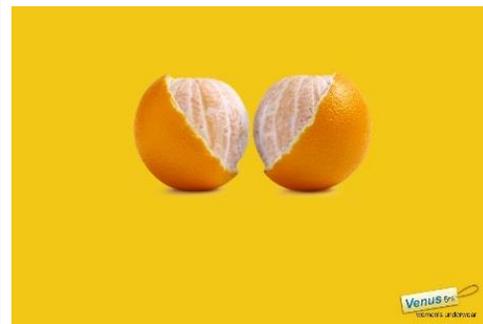
The original image: WALITA ad (2016).  
Retrieved from  
<https://www.pinterest.com/pin/308426274455188663/>

## Electric Iron

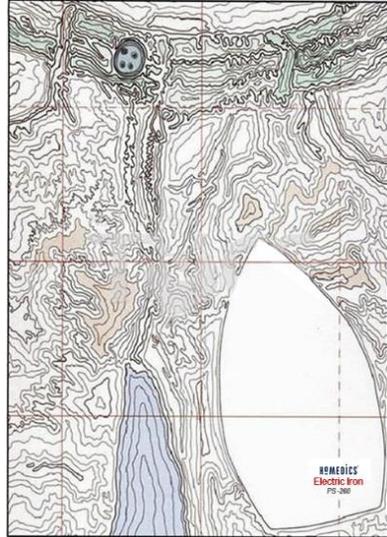


The original image: Ozeal ad (2016).  
Retrieved from  
<https://www.pinterest.com/pin/63824519692271013/>

## Two Underwear ads



The original image: Wonderbra ad (2016).  
Retrieved from  
<https://adsoftheworld.com/forum/2057>



The original image: Faultless spray starch (2016). It was re-created and modified.

### Underwear ads



The original image: Wonderbra (2016).

Retrieved from

<http://i1.wp.com/www.chrisrawlinson.com/wp-content/uploads/2010/02/wonderbrastairs.jpg>

### 3 Habit-formation

### 4 Self-satisfaction

Low involvement

### Hand sanitizers ads



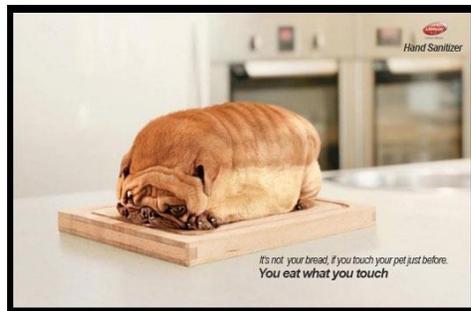
### Delivery Pizza





The original image: Purell Sanitizer ad (2016). Retrieved from <http://www.onlinemastersinpublichealth.com/powerfully-creative-hand-hygiene-ads/>

### Sanitizer ad



The original image: Lifebuoy Handwash ad (2016). Retrieved from <http://justsomething.co/23-creatively-funny-print-ads-will-make-you-giggle/>

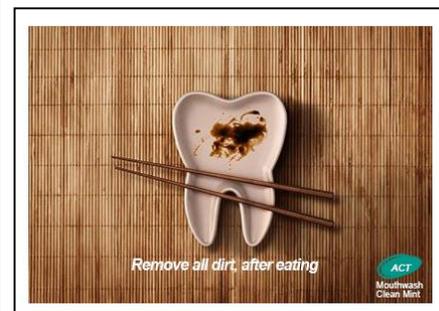
The original image: Pizza ad (2016). Retrieved from <https://www.coloribus.com/adsarchive/prints-outdoor/pizza-hut-home-delivery-service-homeless-8073255/>

### Hot sauce

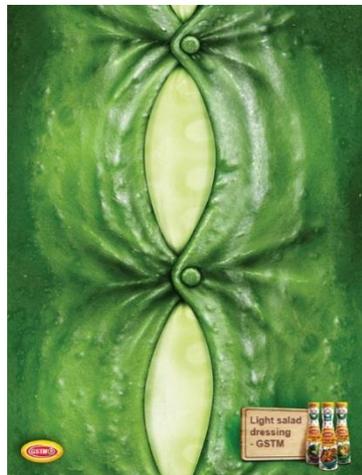
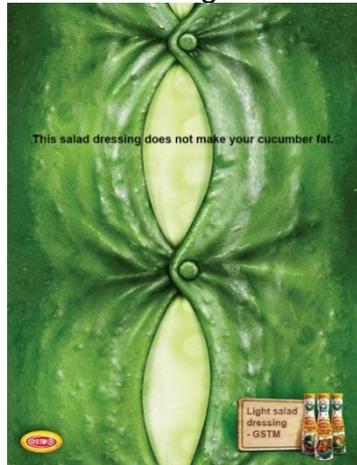


The original image: Tabasco (2016). Retrieved from <https://www.pinterest.com/pin/128071183130068107/>

### Mouthwash



Salad dressing



The original image: OSEM ad (2016). Retrieved from [https://adsoftheworld.com/media/print/osem\\_cucumber](https://adsoftheworld.com/media/print/osem_cucumber)



The original image: Even mouthwash ad (2016). Retrieved from <https://www.pinterest.com/pin/478718635368233854/>

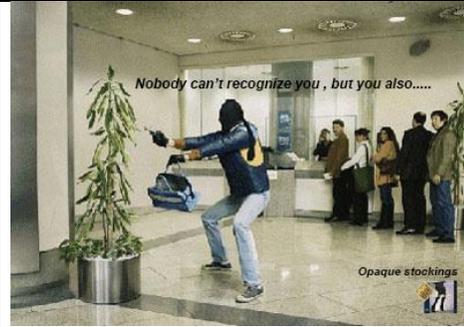
(Explicit Metaphor) ad stimuli by product types – total number of ads: 12

Involve ment	Think		Feel
	1 Informative	2 Affective	
High involvement	Ski-Board helmet	Stockings	



The original image: Boeri ad (2016). Retrieved from <https://forsenorse.com/tag/boeri-ads/>

### Grass trimmer



The original image: Nur Die ad (2016). Retrieved from <http://adsoftheworld.com/media/print/yuca?size=original>

### Outdoor Shoes



The original image: North Face poster (2016). Retrieved from [http://www.doctordisruption.com/wp-content/uploads/2012/09/Designed\\_for\\_professionals2.jpg](http://www.doctordisruption.com/wp-content/uploads/2012/09/Designed_for_professionals2.jpg)



The original image: STIHL ad (2016).  
Retrieved from  
<https://www.pinterest.com/pin/562105597213427256/>

### Lawn mower



The original image: Gardena ad (2016).  
Retrieved from  
<http://www.advertolog.com/gardena/print-outdoor/quiet-11738805/>

### Cosmetic



The original image: Olay UK ad (2016).  
Retrieved from  
[http://www.wired.com/2007/04/cosmetic\\_compan/](http://www.wired.com/2007/04/cosmetic_compan/)

**3 Habit-formation**

**4 Self-satisfaction**

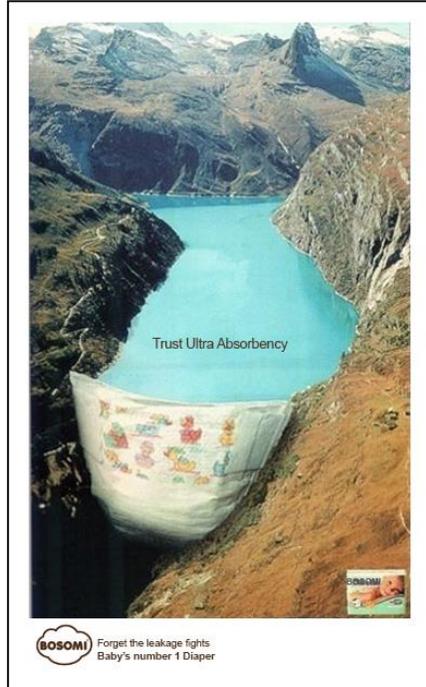
Low  
involvement

### Lint roller



The original image: 3M (2016). Retrieved from <http://theinspirationroom.com/daily/2012/3m-lint-roller-pets/>

### Baby Diapers



### Candy



The original image: Juice-candy (2016). Retrieved from <https://nickglauth.wordpress.com/advertising-ads/#jp-carousel-58>



**BOSOMI** Forget the leakage fights  
Baby's number 1 Diaper

The original image: Milette ad (2016).  
Retrieved from  
<https://www.coloribus.com/adsarchive/prints/unknownadvertiser-milette-2533405/>

### Toothbrushes



The original image: Sensodyne ad (2016).  
Retrieved from  
<https://www.coloribus.com/adsarchive/prints/sensodyne-toothpaste-feathers-13444755/>

### Beverage



The original image: Bramhufts-Swedish ad (2016). Retrieved from  
<http://www.ateriet.com/clever-juice-ads-for-bramhufts/>

## Gum



The original image: Extra Gum ad (2016). Retrieved from <https://www.coloribus.com/adsarchive/prints/extra-toothbrush-3699505/>

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## BIOGRAPHICAL SKETCH

Soojin Kim was born in Seoul, South Korea, and graduated from Chung-Ang University, where she received her degree of Bachelor of Arts in Russian Language and Literature in February 1995. Subsequently, she earned a degree of Master of Fine Arts in advertising design at Ewha Womans University in Seoul, Korea. After graduation, Soojin worked for J. Walter Thompson (JWT) Korea as an Advertising Creative Designer. Later, she worked for Neodigm, a marketing communication company, as a web designer, and subsequently was named online marketing manager and an account executive (i.e., A.E.) for IT global companies such as Microsoft® Korea, Intel® Korea, Cisco Systems®, NCR®, HP®, etc. Later, while working for Neodigital Inc. as a marketing communication director, she managed advertising & marketing campaigns for IT global companies. Her ten years of professional experience included two years as a CEO of her own company (marketing communication agency) in Seoul, Korea.

After about ten years of professional experience, Soojin earned a Master of Arts in advertising at the University of Texas at Austin in 2010. During her academic training in the Ph.D. program at the University of Florida, she received the assistantship from the College of Journalism and Communications, and taught the course, Introduction to Advertising Design and Graphics in the Department of Advertising for three semesters. For this dissertation project, she won the 2015 American Academy of Advertising Doctoral Dissertation Proposal Award.

Soojin has accepted the position of a tenure-track assistant professor at Louisiana State University and will teach undergraduate advertising and visual communication courses in the Fall of 2016.