FRAMING HEDONIC AND UTILITARIAN PRODUCT ATTRIBUTES IN
ADVERTISEMENTS: THE IMPACT OF REGULATORY FIT ON PERSUASION

A Thesis in
Mass Communications

by
Hui-Fei Lin

© 2007 Hui-Fei Lin

Submitted in Partial Fulfillment
of the Requirements
for the Degree of
Doctor of Philosophy

May 2007
The thesis of Hui-Fei Lin has been reviewed and approved* by the following:

Fuyuan Shen  
Assistant Professor of Communications  
Thesis Advisor  
Co-Chair of Committee

Jorge Reina Schement  
Distinguished Professor of Communications  
Co-Chair of Committee

Mary Beth Oliver  
Professor of Communications

Karen Gasper  
Associate Professor of Psychology

John S. Nichols  
Professor of Communications  
Associate Dean for Graduate Studies and Research

*Signatures are on file in the Graduate School.
ABSTRACT

A number of studies have examined regulatory fit, a match between the means through which people pursue their goals and their goal orientation, in the area of consumer psychology. However, what is unknown is the impact of the compatibility of a hedonic or utilitarian product attribute framed as a gain or a loss with one’s regulatory focus, on persuasion effects. Based on prior research, this study posits that the framing of hedonic and utilitarian product attributes can interact with regulatory focus in influencing individuals’ evaluations of both the brand and the advertisement. It is further hypothesized that fit between the message framing of product attributes and one’s regulatory focus is expected to lead to greater message framing effects. These propositions were tested in an experiment with a 2 x 2 x 2 between-subjects design. The first factor, regulatory focus (promotion vs. prevention), was manipulated by asking students to list their ideals and oughts as well as complete a paper-and-pencil maze. The other two factors, product attributes (hedonic vs. utilitarian) and message framing (gain vs. loss), were manipulated through the copies of two print advertisements. Message effects were measured by brand attitude, attitude toward the advertisement, and purchase intention. A total of 215 subjects participated in this study.

Findings revealed several significant effects of regulatory focus on evaluations of hedonic and utilitarian product attributes. When the attributes emphasized in advertisements fit individuals’ regulatory orientation, stronger attitude towards brand and advertisement as well as greater purchase intention were induced. Furthermore, when product attributes emphasized in a gain or loss frame fit one’s regulatory focus, stronger attitudes toward brands and advertisements were found. Consistent with prior research, when promotion-focused individuals are exposed to advertisements framing hedonic attributes as a gain, they are more likely to engage in heuristic
processing than when exposed to advertisements framing utilitarian attributes as a loss. On the other hand, when prevention-focused individuals are exposed to advertisements framing utilitarian attributes as losses, they are more likely to engage in systematic processing than when exposed to advertisements framing hedonic attributes as a gain. Ease of process was found to be a significant mediator between regulatory focus and message framing. These results extended prior research findings on framing and regulatory focus. Theoretical and practical implications will be further discussed.
# TABLE OF CONTENTS

**LIST OF TABLES**........................................................................................................................................... vii

**LIST OF FIGURES**........................................................................................................................................... viii

**ACKNOWLEDGEMENTS**.............................................................................................................................. ix

**CHAPTER 1: INTRODUCTION**..................................................................................................................... 1
  Background.................................................................................................................................................... 1

**CHAPTER 2: LITERATURE REVIEW**........................................................................................................... 6
  Message Framing........................................................................................................................................... 6
  Factors Affecting Message Framing Effects................................................................................................. 9
  Regulatory Focus Theory............................................................................................................................. 13
  Application to Regulatory Focus ............................................................................................................... 15
  Regulatory fit.............................................................................................................................................. 17
  Operationalization of Regulatory Focus .................................................................................................... 19
  Manipulation of Temporary Regulatory Focus .......................................................................................... 20
  Measurement of Chronic Regulatory Focus ............................................................................................... 23
  Research in Regulatory Focus and Message Framing .............................................................................. 27
  Hypotheses.................................................................................................................................................. 32

**CHAPTER 3: RESEARCH METHODS**........................................................................................................... 39
  Pretest I .................................................................................................................................................... 39
  Pretest II................................................................................................................................................... 41
  Main Experiment ....................................................................................................................................... 46

**CHAPTER 4: RESULT**.................................................................................................................................. 52
  Manipulation Checks................................................................................................................................... 54
  Test of Hypothesis 1 ................................................................................................................................... 57
  Test of Hypothesis 2 ................................................................................................................................... 59
  Test of Hypothesis 3 ................................................................................................................................... 62
  Test of Hypothesis 4 ................................................................................................................................... 63
  Test of Hypothesis 5 ................................................................................................................................... 65
  Test of Hypothesis 6 ................................................................................................................................... 66
**LIST OF TABLES**

Table 1: Summary of Regulatory Forms as a Function of Valence of End-state as Reference Point and Direction of Means ........................................................................................................ 101
Table 2: Hedonic and Utilitarian Attributes Determined from the Pretest ......................................... 102
Table 3: Manipulation Check on the Perceived Emphasis of Hedonic and Utilitarian Ads ...... 103
Table 4: Manipulation Check on the Perceived Emphasis of Gain and Loss Framing Ads ...... 104
Table 5: Experimental Design ..................................................................................................... 105
Table 6: Means and Standard Deviations for Brand Attitude, Attitude toward the advertisement, and Purchase Intention ........................................................................................................ 106
Table 7: Correlations among Dependent Variables ...................................................................... 106
Table 8: Multivariate and Univariate F-values for the Dependent Variables ............................. 108
Table 9: Univariate F-values for the Dependent Variables ........................................................... 109
LIST OF FIGURES

Figure 1: The Framework of the Research ................................................................................... 88
Figure 2: Psychological Variables with Distinct Relations to Promotions and Prevention Focus. 89
Figure 3: The Procedure of Main Experimental Design .................................................................. 90
Figure 4: Interaction between Self-regulatory Focus and Product Attributes on Brand Attitude (Shampoo Ads) ............................................................................................................. 91
Figure 5: Interaction between Self-regulatory Focus and Product Attributes on Attitude toward the Advertisement (Shampoo Ads) ......................................................................................... 92
Figure 6: Interaction between Self-regulatory Focus and Product Attributes on Purchase Intention (Shampoo Ads) ................................................................................................................. 93
Figure 7: Interaction between Self-regulatory Focus and Product Attributes on Brand Attitude (Backpack Ads) ......................................................................................................................... 94
Figure 8: Interaction between Self-regulatory Focus and Product Attributes on Attitude toward the Advertisements (Backpack Advertisements) ................................................................. 95
Figure 9: Interaction between Self-regulatory Focus and Product Attributes on Purchase Intention (Backpack Ads) ......................................................................................................................... 96
Figure 10a: Interaction between Product Attributes and Message Framing on Brand Attitude among Promotion-focus Individuals (Shampoo Ads) ............................................................. 97
Figure 10b: Interaction between Product Attributes and Message Framing on Brand attitude among Prevention-focus Individuals (Shampoo Ads) ................................................................. 97
Figure 11a: Interaction between Product Attributes and Message Framing on Attitude toward the Advertisements among Promotion-Focus Individuals (Shampoo Ads) ............................. 98
Figure 11b: Interaction between Product Attributes and Message Framing on Attitude toward the Advertisements among Prevention-Focus Individuals (Shampoo Ads) ......................... 98
Figure 12: Processing Fluency as a mediator between Fit and Message Effects (Shampoo Ads). ....................................................................................................................................................... 99
Figure 13: Processing Fluency as a mediator between Fit and Message Effects (Backpack Ads) .......................................................................................................................................................... 100
ACKNOWLEDGEMENTS

I would like to express my deep gratitude to Professor Fuyuan Shen, Advisor and Co-Chair of my doctoral thesis, for his ongoing guidance, insight, support, and encouragement throughout the entire process of my thesis research. He has been a great mentor and has helped me tremendously in successfully progressing in the Ph.D. program.

I would also like to express special thanks to my Co-Chair, Professor Jorge R. Schement, for his care and support in encouraging me to complete the thesis. I am deeply appreciative of Professors Mary B. Oliver and Karen Gasper, for serving on my doctoral committee. Their insightful comments on my thesis were invaluable. I have taken their classes and benefited from their expertise. In addition, I acknowledge the assistance of Professor Ed Yoder in aiding me through the data analysis of my research.

Especially, I would like to take this opportunity to express my deep appreciation to my dear husband, Wen-Liang Wang. We have been together for 16 years and were married a year ago. During these years, it was his unconditional love and support which helped me overcome the barriers through every stage of my life, especially the doctoral program. He has taught me what true love is. I also would like to thank my baby, who will be born this coming August and has stayed with me to work on my dissertation for the last four months.

In addition, I am deeply appreciative of my parents, Bao-Zhou Lin and Su-Qing Xu, and my brothers, Jian-Zhi and Zheng-Liang and sisters, Ya-Qiao and An-Qi for always motivating me to achieve my dreams. In addition, I would like to express special thanks to my father and mother in law, Qing-He Wang and Qiu-Ju Xu. With their emotional encouragement and financial support, I was able to finish my doctoral degree.

My last thanks goes to my friends, Ying Kong, Mina Tsay, Christine A. Kleck, Yu-Tai
Chung, Benjamin Yeo, Eun-A Park, Jae-Hong Kim, Omotayo Banjo, Chun Liu, Qiang Hong, Maja Krakowiak, Changmin Yan, Christ, Jinhee Kim, Nan Yu, Anamarcia Lacayo, Sampada Marathe, and Edward P. Downs. Their encouragement has meant so much to me.
CHAPTER 1: INTRODUCTION

Background

Everyday, consumers are bombarded with information, such as news and commercial messages. Due to their limited cognitive capacities, individuals have to selectively process such information. In order to make advertisements more recognizable and remembered, advertisers strive to increase the effectiveness of product messages by employing different strategies. For example, Aquafresh is a brand of toothpaste. On its website (http://www.aquafresh.com), different persuasion techniques are used, such as statements like, “Show off a brighter whiter smile” and “If hot or cold drink or chilly weather make your teeth hurt. You need extra protection. Get relief from tooth sensitivity” (Aquafresh, 2006). The most manifest distinction between these two appeals is that one promotes the pursuit of an acquired positive outcome, while the other promotes the avoidance of a negative outcome.

The first example demonstrates that one can have whiter teeth and a brighter smile from using the product. In other words, it emphasizes the achievement of positive outcomes and focuses on hedonic attributes which relate to aspects of “pleasure, fantasy, and fun” (Dhar & Wertenbroch, 2000, p. 61.). Conversely, the second example states that “its special formula soothes the nerves. You can once again enjoy your favorite foods without the nagging pain of sensitive teeth” (Aquafresh, 2006). Inherently, these phrases are associated with the avoidance of a negative outcome and focus on utilitarian attributes that are practical, “instrumental,” and “functional” features of a product (Dhar & Wertenbroch, 2000, p. 61).

In light of the above examples, it would be interesting to determine which frame appeals to consumers. Research on message framing has been extensively conducted in different contexts,
such as decisions between risk-averse and risk-seeking options (e.g., Tversky & Kahneman, 1981) and health behaviors (e.g., Maheswaran & Meyers-Levy, 1990; Rothman, Martino, Bedell, Detweiler & Salovey, 1999). These studies have demonstrated how positively or negatively framed messages influence decision making. However, the results indicating the persuasion effect of message framing have been relatively inconsistent. Some researchers have shown that a negatively framed message is more persuasive than a positively framed message (e.g., Rothman, Salovey, Antone, Keough, & Martin, 1993), whereas others have found that a positively framed message is more effective than a negatively framed message (e.g., Meyerowitz & Chaiken, 1987).

These inconsistent findings were caused by different operational definitions of message framing, such as risky choice, attribute, and goal framing (Levin, Schneider, & Gaeth, 1998). First, risky choice framing occurs when a portion of the message is framed by different levels of risk. For example, when risky alternatives are framed as gains, individuals are inclined to be risk averse, but when risky alternative are framed as losses, individuals tend to be risk seeking (Tversky & Kahneman, 1981). Second, attribute framing is the manipulation of an object’s positive and negative attributes as they are represented (Levin et al., 1998). For example, Levin and Gaeth (1988) labeled ground beef as either “80% lean” or “20% fat.” They found that when attributes are framed in positive terms rather than negative terms, more favorable evaluations are reported. Finally, goal framing is the way in which positive or negative consequences of a behavioral goal are represented (Levin, et al., 1998). Meyerowitz and Chaiken (1987) found that when a message was framed as a loss, there were greater persuasion effects, than when a message was framed as a gain.

Among these three alternative types of message framing discussed above, this study focuses
on examining the message effects that vary in goal framing. Goal framing emphasizes positive consequences (achieving gains) or negative consequences (avoiding losses) of a behavioral goal (Levin, et al., 1998). With respect to individuals’ goal orientation, based on regulatory focus theory, regulatory focus can be characterized as promotion-focus or prevention-focus orientations. Individuals with a more promotion-focused orientation tend to approach pleasure by seeking matches to desired end-states. Conversely, individuals with a more prevention-focused orientation are inclined to avoid pain by avoiding mismatches to desired end-states (Higgins, 1997). Therefore, this study examines the relationship between self-regulatory focus and the message framing of product attributes. When advertisements that frame product attributes as a gain or a loss are compatible with an individual’s regulatory orientation, this compatibility is expected to lead to a perceived fit. Thus, people are more likely to prefer the given advertisement and have more favorable evaluations toward the brand and the advertisement itself.

Regulatory fit is conceptualized as the match between the means through which people pursue their goals and their goal orientation (Aaker & Lee, 2006; Higgins, 2000). For example, advertisements which highlight hedonic attributes presented in a gain frame represent the notion of attaining a desirable end-state. Thus, these kinds of advertisements will be more compatible with promotion-focused goals, which emphasize the occurrence of positive outcomes. Conversely, advertisements which highlight utilitarian attributes presented in a loss frame represent the notion of avoiding an undesirable end-state. Therefore, these types of advertisements will be more compatible with prevention-focused goals, which stress the avoidance of negative outcomes.

Consequently, an area of further exploration is to consider whether the compatibility between an individual’s goal orientation and appeal of advertisement enhances message effects.
In this current research, regulatory fit was operationalized by matching one’s self-regulatory focus with gain or loss frames of either hedonic or utilitarian product attributes. This paper examines how activating individuals’ promotion and prevention orientation will affect the evaluation of advertising messages that present hedonic or utilitarian attributes of certain products as a gain or a loss. It seeks to enhance our understanding of persuasion and framing by delineating the relationships among message framing, product attributes, and self-regulatory focus. In order to extend extant literature on regulatory focus theory and to explore message framing, the following research questions are addressed: What is the effect of compatibility among self-regulatory focus, product attributes, and message framing on information processing and persuasion? What is the mechanism mediating regulatory fit on message effects?

It is proposed that promotion-focused individuals are more likely to be persuaded when they are exposed to an advertisement which emphasizes hedonic attributes, presented in gain frames, whereas prevention-focused individuals are more likely to be persuaded when exposed to an advertisement which highlights utilitarian attributes, presented in loss frames. When promotion-focused individuals are exposed to product advertisements with hedonic attributes presented in a gain frame, they are more likely to engage in heuristic processing than when exposed to product advertisements with utilitarian attributes presented in a loss frame. On the contrary, when prevention-focused individuals are exposed to product advertisements with utilitarian attributes presented in a loss frame, they are more likely to engage in systematic processing than when exposed to product advertisements with hedonic attributes presented in a gain frame. A model illustrates the framework for this proposed research (see Figure 1).

The findings are expected to both provide a theoretical framework for understanding persuasion in a mass communication context and suggest practical implications for more
effective advertising strategies. Prior research has mainly focused on delineating the relationships between self-regulation and the evaluation of product attributes (e.g., Chernev, 2004) and relationships between self-regulation and message framing (e.g., Lee & Aaker, 2004). However, the compatibility among all three concepts in relation to their effects on advertising has received little attention. Taking into consideration self-regulatory focus theory, utilitarian/hedonic product attributes, and message framing could provide a more comprehensive theoretical contribution to explain persuasion effects in mass communication. Findings from the present research hold practical implications. They will provide advertisers with valuable insights about how to construct more effective messages. Results suggest that marketers and advertisers consider the relationship between the effect of persuasion and the compatibility between the framing of product attributes and individual’s goal orientation. If a message fits consumers’ regulatory orientations, then it will be more effective.

The primary purpose of this research is explained in Chapter 1. Chapter 2 provides a literature review of message framing, self-regulatory focus theory, product attributes, and information processing. In addition, based on past literature, the hypotheses are developed. Chapter 3 presents the methodology employed for two pretests and one main experimental study. Chapter 4 reports statistical analyses and results. The final chapter is a discussion of the findings, limitations of the research, contributions to extant literature, and directions for future studies.
CHAPTER 2: LITERATURE REVIEW

This chapter reviews the literature on message framing. Then, regulatory fit is discussed using regulatory focus theory as a framework. Finally, the compatibility effects between message framing and self-regulatory focus, self-regulatory focus and product attributes, and message framing and information processing help provide a richer understanding of how regulatory fit influences message effects. Based on prior research, several hypotheses are proposed.

Message Framing

The concept of framing was first employed by researchers to explain the decision making process. Kahneman and Tversky (1979) proposed prospect theory to explain how individuals make a decision under conditions of risk and uncertainty. They used this theory to examine the framing of choices within the context of an Asian disease outbreak. Positive frames refer to messages or choices that were phrased in positive terms or in terms of the lives saved. The loss frame involved two treatment programs that depicted the number of patients who could not be saved. Although the anticipated value (e.g., what is saved or lost) was treated equally over various choices, in both gain and loss conditions, one treatment program provided a certain result and the other provided an uncertain or risky result. Results indicated that when an outcome was presented as an opportunity to gain, individuals exhibited greater tendencies toward risk-averse characteristics, whereas when the decision was framed in terms of losses, individuals tended to become risk-prone. Hence, Tversky and Kahneman (1981) found that when individuals were exposed to messages relating to costs, they were more likely to accept risks, whereas when individuals were exposed to a message with associated benefits, they were more likely to avoid risks.
Following Tversky and Kahneman’s (1981) study, there has been extensive research examining message framing in several areas. With regards to health issues, the effects of framing on an individual’s decision making process, such as decisions about allocations of resources for Leukemia and AIDS treatment programs (Levin & Chapman, 1993), breast self-examination (Meyrowitz & Chaiken, 1987), and mammography utilization (Banks et al., 1995) have been examined. For example, in mammography utilization, message framing can be used as follows: “If you avoid getting a mammogram, you fail to take advantage of the best method for detecting breast cancer early…If you get a mammogram, you take advantage of the best method for detecting breast cancer early” (Rothman & Salovey, 1997, p. 4).

Furthermore, Banks et al. (1995) suggested that individuals would experience different persuasion effects via gain and loss frames depending on whether the message focuses on prevention behaviors (e.g., using sunscreen or condoms) or detection behaviors (e.g., breast self-examination and mammograms). Prevention behaviors are viewed as non-risk, whereas detection is considered more risky. Based on the assumption of prospect theory, when the behavior is a prevention behavior, gain frames will hold more persuasive power than loss frames. In contrast, when the behavior is a detection behavior, loss frames will hold greater persuasive influence than gain frames. Therefore, Banks et al. (1995) found that when women were exposed to a loss-framed message, they were more inclined to have a mammogram examination within 12 months of the message intervention.

The strategy of message framing is also common among marketers who have the goal of designing advertisements as an effort to entice consumers to purchase their products. Message framing used in product promotion refers to the presentation of information, which can come in the form of positive or negative orientations, or in terms of benefits gained or lost with regards to
a product (Maheswaran & Meyers-Levy, 1990). Specifically, gain frames pertain to desirable end-states, while loss frames are related to undesirable end-states. Message framing could be operationalized either by positive product attributes/benefits that are gained by the use of a product or by negative product attributes/benefits that are lost by rejecting the use of the product (Maheswaran & Meyers-Levy, 1990; Salovey, Schneider, & Apanovitch, 2002). In other words, a positively framed message refers to “a brand’s advantages or the potential gains for consumers resulting from the purchase or use of the brand” (Zhang & Buda, 1999, p. 1), whereas a negatively framed message is viewed as “the potential losses to consumers if the brand is not chosen or a wrong decision is made in choosing a brand” (p. 2).

According to Rothman and Salovey (1997), there are two ways to manipulate the valence of a framed message. The first is based on whether it is possible to obtain positive outcomes or not. Therefore, gain frames denote that messages focus on positive outcomes being reached. For example “if you get a mammogram, you are likely to find out that your breasts are healthy” (p. 6) states an achieved positive outcome. Conversely, loss frames stress positive outcomes not being reached. For example, “if you do not get a mammogram, you will not know whether your breasts are healthy” (p. 6). The other manipulation focuses on whether it is possible to avoid negative outcomes. Therefore, gain frames position messages in that a negative outcome will be avoided, such as, “if you get a mammogram, you decrease the risk of an undetected, potentially life-threatening tumor” (p. 6), whereas loss frames position messages in that a negative outcome will indeed be received, such as, “if you do not get a mammogram, you increase the risk of an undetected, potentially life-threatening tumor” (p.6).

Similarly, Salovey, Schneider, and Apanovitch (2002) indicate that “Gain-framed” messages usually present the benefits that are accrued through adopting a certain behavior; loss-framed
messages generally convey the costs of not adopting the requested behavior” (p.392). Consequently, gain-framed messages can be viewed as a positive outcome being approached or a negative outcome not being approached. In contrast, a loss-framed message can be treated as a negative outcome being approached or a positive outcome not being approached. In the present study, using the definitions of gain and loss frames by Salovey, et al. (2002), frame valence (gain vs. loss) and frame types (goal) for each advertisement were manipulated. Gain frames emphasize the benefits of using the advertised product. Loss frames on the other hand, stress the costs of not using the advertised product.

Factors Affecting Message Framing Effects

Prior research has shown message framing can play a critical role on persuasion, but with inconsistent results. Some findings have revealed that gain frames elicit greater persuasion effects than loss frames (Rothman, Salovey, Antone, Keough, & Martin, 1993), whereas others have indicated that loss frames are more effective in certain conditions than gain frames (Banks et al., 1995; Block & Keller, 1995; Maheswaran & Meyers-Levy, 1990; Meyerowitz & Chaiken, 1987). The reason for this inconsistency may be dependent on other factors, such as need for cognition, message-response involvement, perceived risk, and processing fluency. These factors are discussed in the following paragraphs.

First, the moderating effect of need for cognition (NFC) has been readily examined in the context of persuasion. An individual’s NFC can be reflective of the way in which the advertisement is processed (central vs. peripheral route) (Cacioppo et al., 1986). NFC is considered an individual difference variable, as is the tendency to engage in and enjoy cognitive activity. The moderating effect of NFC on persuasion can be understood from the Elaboration Likelihood Model (ELM) (Cacioppo & Petty, 1982). People with high NFC are likely to be
motivated towards in-depth information processing and enjoy thinking. Thus, persuasion results from issue-relevant information through the central route (Cacioppo & Petty, 1982). Conversely, those with low NFC tend to engage in less effortful processing. Hence, attitude changes result from simple cues through the peripheral route (Cacioppo & Petty, 1982). Haugtvedt, Petty, and Cacioppo (1992) found that individuals with high NFC base their evaluations of a product on the quality of the arguments presented, whereas those with low NFC rely on peripheral cues, such as the attractiveness of an endorser or simply the number of arguments. Confirming the imperative role of NFC on persuasion, this variable could determine the path of processing when evaluating an advertisement (Cacioppo et al., 1986).

Second, with regard to message-response involvement, literature has supported the prominent role of involvement as an influence on advertising perceptions. Involvement can be defined as “an individual, internal state of arousal with intensity, direction, and persistence properties” (Andrews, Durvasula, & Akhter, 1990, p.28). The concept can be measured in terms of one’s level of motivation to process information (Celsi & Olson, 1988). Motivation to process advertisements can influence the ways in which consumers respond to framed information (Zhang & Buda, 1999). Maheswaran and Meyers-Levy (1990) manipulated message frames by emphasizing vulnerability to certain health risks. They found that negatively framed messages were more persuasive for highly involved individuals who processed messages in detail (engaging in effortful processing), than those less involved. On the other hand, positively framed messages were more persuasive for less involved individuals (engaging in effortless processing) than those highly involved. Similarly, Zhang and Buda (1999) also found that those with high levels of involvement were more likely to engage in effortful elaboration of the message than those with low levels of involvement. The reason is that for low levels of involvement, there is
less motivation to process the message, and thus, the individual bases his or her evaluation on more peripheral features of the information in order to more easily process the message. In addition, those with low involvement evaluated products more favorably when the features described in the message fit their regulatory concerns than when the features did not fit their regulatory concerns (Wang & Lee, 2006). However, these results only occurred for individuals with low involvement.

Third, concerning perceived risk, the magnitude of framing can also have an impact on persuasion (Levin et al., 1998). The magnitude of framing can be divided as levels of perceived high and perceived low risks. Individuals who view themselves as vulnerable to negative results are more likely to be persuaded by loss-framed messages than by gain-framed messages (Lee & Aaker, 2004). On the contrary, when individuals perceive that the risk is low, they are more likely to be persuaded by gain-framed messages than loss-framed messages. Finally, persuasion may be mediated by the extent to which individuals elaborate on and fluently process advertisements. The effect of message framing on persuasion is dependent on an individual’s thought processing (systematic, heuristic, or both) (Meyers-Levy & Maheswaran, 2004). The reason is that when exposed to positively framed messages, individuals do not think about these messages deliberately. Rather, they base their decisions on the superficial meanings behind such messages, and thus heuristic processing is more easily induced. Conversely, when exposed to a negative message, individuals tend to scrutinize such information more deeply, and thus systematic processing will be more easily prompted. Similarly, when individuals are deeply processing information, negative frames produce greater persuasion effects than positive frames (Block & Keller, 1995).

Furthermore, studies have shown that processing fluency can result in more favorable
attitudes towards a message. For instance, Waenke, Bohner, and Jurkowitsch (1997) asked participants to either list one or ten reasons for selecting a BMW over a Mercedes. Results indicated that retrieval fluency was easier for 1 reason than for 10 reasons, leading to greater interest in the BMW. In addition, Lee and Aaker (2004) asked participants to indicate the level of difficulty in processing or understanding a message. Findings showed that in the promotion-focused condition, participants considered gain-framed messages to be easier to process than loss-framed messages. Therefore, participants had more favorable attitudes toward gain-framed messages than loss-framed messages. The reverse was true for the prevention-focused condition, in which loss-framed messages were reported easier to process than gain-framed messages. Thus, more favorable attitudes were reported for loss-framed messages than gain-framed messages. In conclusion, when gain-or loss-framed information is consistent with regulatory focus, information should be easier to process and elicit more positive attitudes. Similarly, Camacho, Higgins, and Luger (2003) proposed that when the strategic means of people’s goal pursuit fits with their regulatory orientation, they will “feel right” (p. 498). Feeling right can lead to more favorable brand attitudes. Therefore, fit results in more fluent processing of the advertisement and thus, individuals will be more easily persuaded.

In order to obtain a greater understanding of regulatory fit on message effects, self-regulatory focus as a moderator and processing fluency as a mediator were examined in this study. Self-regulatory focus was expected to affect the relationship between the independent variables (product attributes and message framing) and the dependent variable (message effects). Therefore, the effect of regulatory fit on persuasion was predicted to differ on levels of self-regulatory focus. In addition, processing fluency was predicted to underlie this compatibility effect. The general theoretical framework of regulatory focus theory will be discussed in the
following sections.

**Regulatory Focus Theory**

*Regulatory focus theory*, proposed by E.T. Higgins (1997), suggests that individuals have a tendency to move toward certain types of end-states. Depending on the type of end-state, different self-regulatory mechanisms will be evoked. End-states are categorized by self-guides: *the ideal* and *the ought*. The former is defined in terms of hopes and wishes, while the latter is defined in terms of duties and obligations. Ideal self-guides direct individuals to approach matches with their desired end-states, whereas ought self-guides lead individuals to avoid mismatched desired end-states. Higgins (1997) labels these two self-regulatory systems as *promotion orientation* and *prevention orientation*, respectively.

The central tenet of self-regulatory focus theory explains how individuals are motivated to approach pleasure and avoid pain (Higgins, 1997). Regulatory orientation is divided into two distinct motivational characteristics: promotion focus and prevention focus. Promotion-focused individuals have a tendency to pay attention to “accomplishments” and “aspirations” (Higgins, 1997, p. 1280), and “advancement” and “growth” (Crowe & Higgins, 1997, p. 117), such as luxury, sensory gratification, and aesthetics. They are also more likely to approach the attainment of a positive outcome (e.g., gain) and avoid the absence of a positive outcome (e.g., non-gain) (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001). In other words, promotion-focused individuals are inclined to maximize the presence of positive outcomes and minimize situations with the absence of positive outcomes.

Conversely, prevention-focused individuals are more likely to pay attention to “safety” and “responsibility” (Higgins, 1997, p. 1280), and “security” (Crowe & Higgins, 1997, p. 120). They
are also inclined to avoid a negative outcome (e.g., loss) and approach the absence of a negative outcome (e.g., non-loss) (Higgins et al., 2001). In short, prevention-focused individuals have a propensity to maximize the absence of negative outcomes and minimize situations with the presence of negative outcomes (Higgins et al., 2001).

Furthermore, promotion-focused individuals are more inclined to approach things which complement their desired end-states and are thus more persuaded by positive information than negative information. Prevention-focused individuals are more likely to avoid things which do not match their desired end-states and are thus more persuaded by negative information than positive information (Pham & Avnet, 2004; Pham & Higgins, 2004). Similarly, Higgins, Roney, Crowe, and Hymes (1994) suggest that those with high levels of ideal self-regulation, associated with hopes or goals, are likely to approach matches to their desired end-states, whereas individuals with high levels of ought self-regulation, associated with duty and responsibility, are likely to avoid mismatches to their desired end-states (see Table 1). Crowe and Higgins (1997) contend that promotion-focused individuals prefer to attain “hits” and defend “against errors of omission,” whereas prevention-focused individuals prefer to attain “correct rejections” and defend “against errors of commission” (p.120).

In order to provide a greater understanding of self-regulatory focus, Higgins (1997) demonstrated various psychological factors that clarify the relationship between promotion focus and prevention focus (see Figure 2). “Nurturance needs, strong ideals, and gain-non-gain “security needs, strong oughts and situations involving non-loss-loss” induce the condition of prevention focus (p.1282). Furthermore, with regards to the output, promotion focus will result in sensitivity to the presence or absence of positive results, inclination for approach as strategic means, motivation to insure hits and insure against errors of omission, and emotions ranging
from cheerfulness to dejection.

For example, when promotion focus is strong, cheerfulness-related emotions will be more likely to be elicited, whereas when it is weak, more dejection-related emotions will be induced. Research findings by Higgins, Shah, and Friedman (1997) supported this argument. When promotion focus is stronger, this will lead to greater cheerfulness. Cheerfulness was measured by “happy” and “satisfied” emotions, whereas dejection was measured by emotions such as being “disappointed, discouraged, low, and sad” (p. 519). On the other hand, prevention focus encourages sensitivity towards the absence or presence of negative outcomes, inclination for avoidance as strategic means, motivation to insure correct rejections and against errors of commission, and emotions ranging from quiescence to agitation. For example, when prevention focus is strong, quiescence-related emotions will be more likely to occur, whereas when it is weak, more agitation-related emotions will be elicited. Higgins et al. (1997) supported this argument. When prevention focus is stronger, this will lead to greater quiescence. Quiescence was measured by “calm” and “relaxed” emotions, whereas agitation was measured by emotions such as being “agitated, on edge, uneasy, and tense” (p. 519).

**Application of Regulatory Focus**

Regulatory focus can be applied to a multitude of topics, such as cultural differences, emotional responses, and consumer behavior. With respect to cultural differences, self-regulatory characteristics vary across individuals from different cultures. People from individualistic cultures tend to have promotion-focused characteristics. On the contrary, people from collectivist cultures are more likely to exhibit prevention-focused characteristics than those from individualistic cultures (Lee, Aaker, & Gardner, 2000; Pham & Avnet, 2004). Findings from Lee et al. (2000) suggest that individuals with more independent self-views have a tendency to
exhibit promotion-focused orientations, whereas individuals with more interdependent self-views have a propensity to exhibit prevention-focused orientations.

Regarding emotions, self-regulatory focus can influence emotional responses and sensitivity towards either a positive or negative outcome (Aaker & Lee, 2001). Higgins et al. (1997) found that promotion-focused individuals are more inclined to have emotions pertaining to feelings of cheerfulness and happiness, whereas prevention-focused individuals are more likely to have emotions alluding to feelings of security and trust. Furthermore, Fournier (1998) indicated that emotional experiences would affect the relationship between consumers and products. For instance, a stable relationship can be established through feelings of security and trust. Similarly, Aaker and Lee (2001) suggest that committed partnerships and best friends create a sense of safety and confidence. They posit that an enjoyable relationship is produced as a result of feelings of cheerfulness and happiness (e.g., “casual friends/buddies or even flings”) (Aaker & Lee, 2001, p. 47). Furthermore, feelings of relief are associated with prevention-focused emotions, whereas feelings of pleasure are characteristic of promotion-focused emotions.

Concerning purchase intention, findings from Safer (1998) (see Higgins 2002, p.181) have supported the results mentioned above. Participants were asked to imagine that they are likely to buy a computer. They needed to select 10 questions from a given 24 questions, comprised of 8 items assessing innovation attributes (e.g., “how creative or advanced it was”), 8 items assessing reliability attributes (e.g., “its ability to prevent system crashes or other problems”), and 8 items assessing neutral features (e.g., “total weight of the unit,” (Higgins 2002, p. 181)). Findings indicated that individuals with a stronger promotion focus had a greater tendency to be concerned about innovation attributes than reliability features. On the contrary, individuals with a stronger prevention focus were more inclined to focus on reliability attributes than innovation
features when purchasing a computer.

In another experiment conducted by Safer (1998), results revealed that promotion-focused individuals were more likely to choose products with more luxurious attributes, but were less enticed by protection features within a vehicle (e.g., soft leather seat and regular battery backup). Prevention-focused individuals were more likely to select products with more protection attributes, but were less enticed by luxury features within a vehicle (e.g., antilock brakes and a regular music sound system) (Higgins, 2002). These findings demonstrated the effects of goal-attribute compatibility on purchase intention. Taking into account extant research on self-regulatory focus, the present study investigated the effect of matching the product attributes presented in a message and an individual’s orientation on the evaluation of a brand and the advertisement itself.

Regulatory Fit

Higgins (2000) proposed the concept of regulatory fit. Regulatory fit occurs when goal pursuit means are compatible with one’s regulatory orientation. In other words, regulatory fit is conceptualized as a match between the strategic means and an individuals’ goal orientation (Higgins, 2005). There are two means of goal pursuit: eagerness and vigilance (Higgins, 1997). 

*Eagerness means* encourage individuals to approach desired end-states. Eagerness means refer to “ensuring hits and against errors of omission,” characteristic of gains and nongains, respectively (Cesario, Grant, & Higgins, 2004, p. 389). Conversely, *vigilance means* motivate individuals to move away from undesired end-states (Higgins, 2000). Vigilance means refer to “ensuring correct rejections and ensuring against errors of commission,” characteristic of nonlosses and losses (Cesario et al., 2004, p. 389). Specifically, eagerness means are concerned with the presence of positive results (e.g., gains) and against the absence of positive results (e.g.,
non-gains). Conversely, vigilance means are concerned with the absence of negative results (e.g., non-losses) and against the presence of negative results (e.g., losses) (Higgins, 2000; 2002). Furthermore, people’s eagerness increased with thoughts of a positive result, but it decreased with thoughts of a negative result. On the contrary, vigilance increased with thoughts of a negative result, whereas it decreased with thoughts of a positive result (Idson, Liberman, & Higgins, 2000). Such findings suggest that the promotion-focused inclination which approaches pleasure is associated with the use of eagerness means, whereas the prevention-focused inclination which avoids pain is related to the use of vigilance means (Higgins, 2000; 2002). This argument was supported by Cesario et al.’s (2004) findings, in which a regulatory fit between self-regulatory focus and the type of means exists. Results showed that promotion-focused individuals were more persuaded by eagerness-framed messages than vigilance-framed messages, but the reverse was true for prevention-focused individuals.

When regulatory fits occurs, individuals will have stronger reactions toward that activity and experience additional value (Cesario et al., 2004). For example, consider a case in which students have the goal of achieving an A in class. While some pursue the A due to their promotion-focus orientation (e.g., fulfilling accomplishments), others do so due to their prevention-focus orientation (e.g., fulfilling obligations). In order to approach their respective goals, some students use eager means, such as reading beyond the required material, whereas others use vigilant means, such as carefully reading only the assigned material (Avnet & Higgins, 2006). When the goal and strategic means fit with the students’ regulatory orientation, regulatory fit leads to greater rewards.

In other words, when individuals experience a regulatory fit, fit enhances the value of what they are doing, more so than when regulatory fit does not exist (Higgins, 2000). For example, a)
They are more likely to possess goal means, which have a higher level of regulatory fit; b) Their motivation to pursue a goal will be stronger; c) They will have more positive feelings about a good choice and have more negative feelings about a bad choice; d) They would be more inclined to pay more for the chosen product. Regulatory fit makes individuals feel “right,” thus transferring these positive emotions to the value of a chosen object—*value from fit* (Higgins, 2000, p. 1220). Regulatory fit increases product evaluation, whereas non-regulatory fit decreases product evaluation (Higgins, 2000). Therefore, regulatory fit transfers value to decision making (Higgins, 2000; Avnet & Higgins, 2003).

Based on the above literature documenting the concept of regulatory fit, it would be interesting to examine how regulatory fit influences message effects. This current research examined the effect of regulator fit on individuals’ evaluations of brand and advertisements. In the marketplace, advertisements usually are designed as a big picture with a desired goal, showing the means through which people can achieve this goal.

**Operationalization of Regulatory Focus**

Regulatory focus has been operationalized by a variety of experimental manipulations and measures of individual differences. Regulatory focus can be manipulated temporarily or can be measured as a chronic individual difference. With regards to a temporary regulatory focus, self-view can be invoked by situational priming. Regulatory focus can be manipulated either by framing a task to produce success or failure, such as gain/non-gain or non-loss/loss (Shah, Higgins, & Friedman, 1998), by priming ideals or oughts (Higgins et al., 1994), or by using a paper-and-pencil maze as a tool for situation priming (e.g., Chernev, 2004; Fiedman & Förster, 2001).

On the other hand, chronic regulatory focus is related to individual differences. The *Selves*
Questionnaire (Higgins, Klein, & Strauman, 1985), Self-guided Strength Measure (Higgins et al., 1997), and Regulatory Focus Questionnaire (RFQ) (Higgins et al., 2001) have readily been used to assess chronic regulatory focus. Cesario et al. (2004) employed both methods to measure regulatory focus. They found that the result of the measure of chronic regulatory focus is as strong as the manipulation of temporary regulatory focus. The manipulation of temporary regulatory focus and the measure of chronic regulatory focus are discussed in the following sections.

**Manipulation of Temporary Regulatory Focus**

There are three ways to manipulate temporary regulatory focus: 1. framing a task as a condition of gain/non-gain or non-loss/loss (e.g., Förster, Grant, Idson, & Higgins, 2001; Higgins et al., 1997; Shah & Higgins, 2001; Shah et al., 1998); 2. priming ideals or oughts (e.g., Förster, Higgins, & Bianco, 2003; Förste, Higgins, & Idson, 1998; Freitas, Leberman, & Higgins, 2002; Higgins, Bond, Klein, & Strauman, 1986; Higgins et al., 1994; Idson et al., 1999; Liberman, Idson, Camacho, & Higgins, 1999; Liberman, Molden, Idson, & Higgins, 2001) and 3. using a paper and pencil maze as a tool for situation priming (e.g., Chernev, 2004; Fiedman & Förster, 2001). These three manipulations are discussed in detail below.

First, regarding the operationalization of situational determination, temporary regulatory focus is manipulated by framing a task as either a success or failure, such as employing gain/non-gain or non-loss/loss frames. This is based on the framing of contingencies between individuals’ performance and the consequences of their performance. According to the manipulation in a study designed by Higgins et al. (1997), regulatory focus is manipulated by framing the task contingency as either a promotion opportunity to gain $1 or a prevention opportunity to avoid losing $1. In the promotion-focus framing condition, participants were told
to get additional money based on the performance in a memory task, thus inducing them to think of the outcome as either a gain (success) or non-gain (failure). Conversely, in the prevention-framing condition, participants were told how to not lose money based on their performance in a memory task. They are encouraged to think of the outcome as either a non-loss (success) or loss (failure). Similarly, in Cesario et al., (2004) study, regulatory focus was manipulated via a description of different concerns about eating fruits and vegetables. In the promotion condition, it focused on energy and fulfillment, whereas in the prevention condition, it focused on avoiding a harmful outcome. Within each condition, the message was framed either as eager means (e.g., presence and absence of gain/non-gain) or vigilant means (e.g., present and absence of non-loss/loss).

The second operationalization of a situational determination of regulatory focus is manipulated by priming ideals or oughts (e.g., Higgins, et al., 1986; Higgins et al., 1994). Participants are randomly assigned to either a promotion priming condition or a prevention priming condition. In the promotion priming condition, participants are asked to describe how their current hopes and goals have changed since childhood. In the prevention priming condition, subjects are asked to report how their current duties and obligations have changed over the years. Similarly, regulatory focus can be primed by placing people in promotion pride, promotion non-pride, prevention pride, and prevention non-pride conditions (Camacho et al., 2003; Higgin et al., 2001). In the promotion pride condition, participants are asked the following questions: (a) “Please tell us about a time in your past when you felt like you made progress toward being successful in life,” (b) “Please tell us about a time in your past, when compared to most people, you were able to get what you wanted out of life,” and (c) “Please tell us about a time in your past, when trying to achieve something important to you, you performed as well as you ideally
would have liked to” (Camacho et al., 2003, p. 503). In the promotion non-pride condition, the following items are asked: (a) “Please tell us about a time in your past when you felt like you failed to make progress toward being successful in life,” (b) “Please tell us about a time in your past, when compared to most people, you were unable to get what you wanted out of life,” and (c) “Please tell us about at time in your past, when trying to achieve something important to you, you failed to perform as well as you ideally would have liked to” (p. 503).

In the prevention pride condition, participants are asked the following questions: (a) “Please tell us about a time in your past when being careful has avoided getting you into trouble,” (b) “Please tell us about a time in your past, when growing up, you stopped yourself from acting in a way that your parents would have considered objectionable,” and (c) “Please tell us about at time in your past when you were careful not to get on your parents nerves” (p. 503). Lastly, in the prevention non-pride condition, participants respond to the following items: (a) “Please tell us about a time in your past when not being careful enough has gotten you into trouble,” (b) “Please tell us about a time in your past, when growing up, you acted in a way that your parents would have considered objectionable,” and (c) “Please tell us about at time in your past when you got on your parents nerves” (p. 503).

Finally, with respect to situational priming, Friedman and Förster (2001) administered a paper-and-pencil maze as a manipulation. Participants were randomly assigned to one of two conditions: promotion focus or prevention focus. In each condition, the objective of the task was to lead a mouse out of the maze. In the promotion condition, a piece of cheese is placed outside the maze, in front of the entryway. Friedman and Förster (2001) assumed that this version would induce the motivation of “seeking nurturance.” In the prevention condition, an owl is looming above the maze and ready to fly down to catch the mouse. Friedman and Förster (2001) posited
that this version would inspire the end result of “seeking security” and the motivation to reach safety.

**Measurement of Chronic Regulatory Focus**

Prior literature has documented three methods to measure chronic regulatory focus. The first is the *Selves Questionnaire*, proposed by Higgins et al. (1985). The second instrument is the *Self-guide Strength Measure*, and the third is the *Regulatory Focus Questionnaire (RFQ)*, proposed by Higgins et al. (2001). These three measures are discussed in the following sections. Based on previous research examining regulatory orientation, in the *Selves Questionnaire*, promotion orientation was operationally defined as the strength of an ideal self-guide, whereas prevention orientation was operationally defined as the strength of an ought self-guide. The *Selves Questionnaire* (see Higgins et al., 1985) has been employed to measure the respective strengths of ideal and ought self-guides (e.g., Brendl, Higgins, & Lemm, 1995; Brockner, Paruchuri, Idson, & Higgins, 2002; Crowe & Higgins, 1997; Higgins et al., 2001; Higgins et al., 1994; Higgins et al., 1997). Goal strength is reflected in terms of goal accessibility. Thus, the strengths of one’s ideal and ought self-guides are defined as the accessibility of these self-guides, measured by response latencies via the *Selves Questionnaire*. Faster completion indicates increased accessibility, and therefore, increased strength of the self-guide. Promotion strength reflects the importance of promotion concerns and prevention strength reflects the importance of prevention concerns.

Using this instrument, participants are asked to list and rate a series of physical characteristics. Participants are initially provided with the definition of an ideal self and an ought self. The ideal self is conceptualized as the type of individual that one ideally wishes or hopes to be. On the contrary, the ought self is conceptualized as the type of individual one believes they
should be (Higgins et al., 1997). Participants report 8 to 10 of their ideal self attributes, all associated with the kind of person they would ideally like to be. Next, they answer 2 other items on a Likert-type scale in reference to the extent to which: (a) they would ideally like to have that attribute and (b) they believe that they actually have that attribute. Similarly, participants are asked to list 8 to 10 of their ought self attributes, all related to the kind of person they ought to be. Participants then report the extent to which: (a) they ought to have that attribute and (b) they believe that they actually have that attribute (Higgins et al., 1997).

The Selves Questionnaire measures individuals’ current discrepancies among their actual selves, ideal selves, and ought selves. Generating attributes and reporting the strengths of these attributes will determine the degree to which a given self-guide is salient. The score of the actual-ought discrepancy is associated with an individual’s prevention focus, while the score of the actual-ideal discrepancy is related to an individual’s promotion focus. The ideal discrepancy score is the sum of each ideal extent rating minus its corresponding actual-ideal self extent rating. Ought discrepancy score is the sum of each ought extent rating minus its corresponding actual-ought self extent rating (Shah & Higgins, 2001).

Furthermore, the computer-generated questionnaire measures three reactions: (a) the time taken to write down each attribute, (b) the time taken to make the self-guide extent rating for the attributes, and (c) the time taken to make the actual-self extent rating for the attributes. Idea strength (strength of promotion focus) is calculated by summing the total reaction times related to the three ideal self-attributes. Ought strength (strength of prevention focus) is calculated by summing the total reaction times related to the three ought self-attributes (Idson et al., 2000; Brockner et al., 2002). Short response latency is a reflection of strong self-guides. Therefore, the less time participants take to list their ideal self-attributes and respond to extent ratings of these
attributes, the stronger the promotion focus. By the same token, the less time participants take to write down their ought self-attributes and respond to extent ratings of these attributes, the stronger the prevention focus.

The second measure of chronic regulatory focus is the *Self-guide Strength Measure*. Higgins et al. (1997) developed a measure of the strength of these guides. Similar to the *Selves Questionnaire*, this computer questionnaire is an idiographic measure which asks participants to report attributes that serve as self-representations (e.g., Förster et al., 2003; Förster et al., 1998; Friedman & Förster, 2001; Higgins et al., 1997; Idson & Higgins, 2000; Idson et al., 2000; Shah & Higgins, 1997; Shah & Higgins, 2001; Shah et al., 1998; Spiegel, Grant-Pillow, & Higgins, 2004). Participants are provided with a definition of the ideal self and the ought self. The ideal self refers to the kind of person they ideally would like to be, whereas the ought self refers to the kind of person they believe they ought to be. Subsequently, participants are told to list three attributes which describe their ideal and ought selves in random order. For example, one ideal attribute is followed by two ought attributes, another ideal attribute, another ought attribute, and one last ideal attribute. Participants need to list these attributes as quickly and accurately as possible and the ideal and ought attributes need to be different from one another. After listing each ideal attribute, participants are required to rate the extent to which they ideally want to possess that attribute and the extent to which they actually possess that attribute. Similarly, after listing each ought attribute, participants will rate the extent to which they believe they ought to possess that attribute and the extent to which they believe they actually possess that attribute. The rating scale will range from 1 (*slightly*) to 4 (*extremely*).

Attribute latencies and extent latencies, related to ideal selves and ought selves, are summed respectively to construct one ideal strength score and one ought strength score. A higher value of
the total ideal strength represents higher promotion focus and a higher value of the total ought strength represents higher prevention focus. Promotion-focused and prevention-focused individuals will be determined by subtracting the mean of ought strength measure from the mean of the ideal strength measure. A higher score reflects a predominant promotion focus and a lower score indicates a predominant prevention focus. Participants are characterized on the basis of a median split as promotion-focused individuals and prevention-focused individuals. This measure has been readily employed in research on regulatory focus. The measure of self-guide strength has been shown to be a valid measurement of the strength of an individual’s chronic concern with promotion (ideal accessibility) and prevention (ought accessibility) (Förster et al., 2003).

The third measure, the Regulatory Focus Questionnaire (RFQ), proposed by Higgins et al. (2001), is another scale which measures chronic regulatory focus and has been used in many recent studies (e.g., Camacho et al., 2003; Cesario et al., 2004). Chronic regulatory focus is operationalized as the subjective history of promotion and prevention success (Higgins et al., 2001). The subjective history of promotion is “promotion pride,” referring to employing eagerness means to pursue goals; the subjective history of prevention is “prevention pride,” referring to using vigilance means to pursue goals (Higgins et al., 2001, p. 3). The response scale for these questions range from 1 (never or seldom) to 5 (very often).

Based on the above literature documenting measures of an individual’s chronic self-regulatory focus and the manipulation of temporary self-regulatory focus, this study involves separate manipulations of temporary promotion and prevention characteristics by priming ideal and ought attributes and employing situational priming via a pencil-and-paper maze. There are two reasons for employing these two manipulations. The first is that temporary self-regulatory focus may be induced by different types of advertisements. For example, car insurance
advertisements may try to invoke temporary prevention focus characteristics, thus persuading people to buy a given car insurance. On the other hand, travel advertisements may invoke temporary promotion focus characteristics, thus enticing people to plan a trip. The second reason is that both manipulations were used by Friedman and Förster (2001) and Chernev (2004) and were found to be valid manipulations. Specially, the manipulation of ideal and ought priming has been widely adopted by researchers over the past two decades.

**Research in Regulatory Focus and Message Framing**

A connection between the conceptualizations of self-regulatory focus and message framing has been proposed (Higgins, 1987). The concept of message framing can be characterized in terms of gain frames which pertain to desirable end-states, and loss frames which are associated with undesirable end-states. Similarly, approaching a desirable end-state is more compatible with promotion focus, whereas avoiding an undesirable end-state is more compatible with prevention focus (Higgins, 2002). Moreover, promotion-focused concern is associated with “the pleasurable presence of positive outcomes (e.g., gains) and the painful absence of positive outcomes (e.g., non-gains)” (p. 4). The prevention-focused concern is associated with “the pleasurable absence of negative outcomes (e.g. non-losses) and the painful presence of negative outcomes (e.g. non-losses)” (Higgins et al., 2001, p. 4). Therefore, the concepts of gain and loss are closely related to self-regulatory orientation, in particular to promotion focus and prevention focus respectively.

Lee and Aaker (2004) applied message framing to regulatory focus and found that messages presented in gain frames (“Get Energized!”) are more persuasive when the appeal is promotion-focused than when it is prevention-focused (p. 208). Conversely, messages presented
in loss frames (“Prevent Clogged Arteries!”) induce more favorable attitudes when the appeal is prevention-focused than when it is promotion-focused (p. 208). In other words, promotion-focused individuals tend to be persuaded by the domain of gains; whereas prevention-focused individuals are likely to be persuaded by the domain of losses. Although individuals are exposed to equivalent information, their purchase intentions depend on how attributes of products are framed in the advertisement.

They argued that when individuals are exposed to a message which highlights vigilance pertaining to prevention focus, they are more likely to be attracted by negative message framing, whereas when individuals are exposed to a message which heightens eagerness associated with promotion focus, they are more attracted by positive message framing. Consequently, a fit between regulatory focus and message framing effect exists (Lee and Aaker, 2004). Similarly, Cesario et al. (2004) found that the fit between self-regulatory focus and message framing could increase message effectiveness. They conceptualized regulatory fit as a match between promotion- and prevention-focused recipients and gain and loss frames respectively. The concept of eagerness was manipulated by presenting gain/non-gain frames and vigilance was manipulated by presenting nonloss/loss frames. Results showed that promotion-focused individuals had a greater purchase intention when exposed to eagerness frames (gain/nongain) than when exposed to vigilant frames (nonloss/loss) and prevention-focused individuals exhibited a greater purchase intention when presented with vigilant frames than when presented with eagerness frames. Based on the above-mentioned arguments, the compatibility effects of regulatory focus and message framing could further explain message framing effects.

Based on prior research, it is also suggested that there is compatibility between goal orientation and product attributes (Chernev, 2004). Types of products can be categorized as
hedonic products or utilitarian products. Hedonic products are described as “frivolous” or “decadent” items, such as designer clothes and a luxury cruise, whereas utilitarian products are defined as “practical” or “necessary” items, such as a textbook and a telephone (Strahilevitz & Myers, 1998, p436). Generally, a product can also have both hedonic and utilitarian attributes at the same time (Chernev, 2004). For example, attributes of a laptop can be viewed as either hedonic in terms of its shape and color or utilitarian in terms of its memory and battery life. Product attributes can be divided into two features: hedonic attributes and utilitarian attributes. Hedonic attributes refer to those which induce an emotional and sensory experience for the consumer, such as “sensual pleasure, fantasy, and fun” (Dhar & Wertenbroch, 2000, p. 61). Utilitarian attributes are associated with practical, “instrumental,” and “functional” features (Dhar & Wertenbroch, 2000, p. 61; Hirschman & Holbrook, 1982; Strahilevitz & Myers, 1998). Similarly, people with promotion-focused orientation tend to achieve pleasure, whereas people with prevention-focused orientation are inclined to avoid pain (Higgins, 1997).

Chernev (2004) found that product evaluations are a function of the fit of an individual’s goal with hedonic and utilitarian attributes. When faced with multiple products, people are inclined to choose products with features consistent with their goal orientation. Promotion-focused people are more likely to select a brand with hedonic attributes than prevention-focused people. Conversely, prevention-focused individuals are more inclined to choose a brand with utilitarian attributes than promotion-focused individuals. When product attributes are compatible with one’s regulatory orientation, it is possible to predict purchase intention.

Furthermore, regarding applying information processing to message framing, the heuristic-systematic model (HSM) (Chaiken, 1980) and processing fluency have been
documented to mediate the effects of message framing on persuasion. The heuristic-systematic model assumes that the mental system is operated by two information processes: systematic processing and heuristic processing. Systematic processing is characterized as an effortful assessment of information. It has been found that the thoughtful and elaborative processing of advertisement content results in the persistence of a systematic route (Meyers-Levy & Malaviya, 1999). On the other hand, heuristic processing approach suggests that simple judgments are induced by “some salient or otherwise readily accessible message or contextual cue” (p. 46). Heuristic processing takes place when individuals are not willing to devote an abundant amount of energy to process messages. Compared to the systematic route, the persistence of a heuristic route will be shorter due to the reliance on simple and intuitive inferences (Meyers-Levy & Malaviya, 1999). When individuals have the motivation and ability to scrutinize the information deliberately, issue-relevant messages will be used as the primary basis of judgment. Conversely, when individuals have less motivation or are unable to effortfully evaluate information, heuristic messages will be used as the basis of judgment (Petty & Cacioppo, 1986).

With respect to the relationship between information processing and message framing, Fiske (1980) proposed that compared to positive messages, negative ones are sometimes unexpected and may not be consistent with what people originally think. In this case, individuals tend to engage in effortful systematic processing. They will be likely to scrutinize messages, hence perceiving the message to have high personal relevance. Consequently, in a condition favoring systematic processing, negatively framed messages are more persuasive than positively framed messages (Meyers-Levy & Maheswaran, 2004; Meyers-Levy & Malaviya, 1999). In contrast, when exposed to positively framed messages, individuals do not need to put more effort into scanning the message. They simply base their judgments on the superficial meaning of the
message. In this situation, individuals will perceive the message to be low in personal relevance. As a result, in a condition favoring the employment of heuristic processing, positively framed messages have more persuasion effects than negatively framed messages (Meyers-Levy & Maheswaran, 2004; Meyers-Levy & Malaviya, 1999). Therefore, the effect of positive and negative frames on persuasion can differ depending on whether systematic processing or heuristic processing is induced.

Furthermore, Lee and Aaker (2004) found that processing fluency mediates regulatory fit on persuasion. Results showed that in the promotion-focused condition, participants considered gain-framed messages to be easier to process than loss-framed messages. Therefore, participants had more favorable attitudes toward gain-framed messages than loss-framed messages. The reverse was true for the prevention-focused condition, in which loss-framed messages were reported easier to process than gain-framed messages. Thus, more favorable attitudes were reported for loss-framed messages than gain-framed messages. Similarly, results of Labroo & Lee (2006) also indicated that ease of processing mediates the effect of goal compatibility on brand evaluation. When the regulatory goal serviced by the promoted brand fits with the goal addressed by the related product, participants experienced fluent processing of the brand and thus had a more favorable attitude toward the brand.

According to prior literature, in order to extend the concept of message framing, some researchers have referred to self-regulatory focus (e.g., Lee & Aaker, 2004). Others have examined goal-attribute compatibility between self-regulatory focus and product attributes (e.g., Chernev, 2004). Additionally, Meyers-Levy and Maheswaran (2004) and Lee and Aaker (2004) have investigated the types of information processing and processing fluency, respectively, that would lead to message framing effects. Evidently, previous research has shown that there are
connections between self-regulatory focus and message framing; self-regulatory focus and product attributes; message framing and information processing; and fit and processing fluency, respectively. Based on the relationships among these concepts, minimal attention has been given to examining the compatibility among self-regulatory focus, product attributes, and message framing in relation to advertising effects in the context of mass communications. It would be valuable to investigate whether regulatory fit has an impact on information processing and on message effects, and whether processing fluency is the variable that mediates the influence of fit on persuasion. On the basis of the literature review, several hypotheses have been tested in this study.

**Hypotheses**

Studies have shown that promotion-focused people are more likely to think about pleasure and gratification (e.g., enjoyment) from a product than prevention-focused people (Crowe & Higgins, 1997; Higgins et al., 2001; Higgins, 1997). Promotion-focused consumers have a greater tendency to consider hedonic attributes, such as the shape, color, and number of pleasurable and fun characteristics of products as reasons for their choice. Thus, they will exhibit more affective responses, placing greater emphasis on hedonic associations rather than utilitarian features. This argument is consistent with the notion that goal compatibility leads to more favorable attitudes (Aaker & Lee, 2001; Chernev, 2004). It is therefore expected that promotion-focused individuals will be more likely to be persuaded by advertisements emphasizing hedonic attributes than those focusing on utilitarian attributes.

Contrary to promotion-focused individuals, prevention-focused people are more likely to avoid undesirable outcomes and thus, are more inclined to evaluate and judge product attributes
(Crowe & Higgins, 1997; Higgins et al., 2001; Higgins, 1997). Therefore, they have a greater tendency to be persuaded by advertisements stressing utilitarian attributes, such as instrumental, practical, and functional features of a product. For example, the quality, efficiency, and lifespan of a product are more salient for prevention-focused consumers than promotion-focused consumers. In a case when goal compatibility exists, consumers will have more favorable attitudes about a product (Aaker & Lee, 2001; Chernev, 2004). Consequently, it is expected that prevention-focused individuals will be more likely to be persuaded by advertisements emphasizing utilitarian attributes than those focusing on hedonic attributes.

H1: When product attributes emphasized in advertisements are compatible with one’s self-regulatory focus, greater message effects (measured by brand attitude, attitude toward the advertisement, and purchase intention) will be induced, such that:

H1a: Promotion-focused individuals are more likely to be persuaded by advertisements emphasizing hedonic attributes than those highlighting utilitarian attributes.

H1b: Prevention-focused individuals are more likely to be persuaded by advertisements emphasizing utilitarian attributes than those highlighting hedonic attributes.

Studies have shown that promotion-focused people are more likely to approach positive outcomes, such as obtaining pleasure and gratification from a product, than to avoid negative outcomes, such as preventing the absence of pleasure and gratification (Higgins et al., 2001). Therefore, a gain frame is more effective than a loss frame when advertisements highlight the hedonic attributes of products. Thus, it is expected that after exposure to product advertisements presenting hedonic attributes in a gain frame, promotion-focused individuals will be more likely to be persuaded by these advertisements. Contrary to promotion-focused people, prevention-focused individuals are more likely to avoid undesirable outcomes, such as the
absence of instrumental, practical, and functional features, than to obtain positive outcomes, such as attaining instrumental, practical, and functional features. Therefore, a loss frame is more effective than a gain frame when advertisements stress the utilitarian attributes of the product. Thus, it is expected that after exposure to product advertisements which present utilitarian attributes in a loss frame, prevention-focused individuals will be more likely to be persuaded by these advertisements. Consequently, based on the arguments above, this study expected a relationship between the compatibility of product attributes and one’s self-regulatory on message effects.

**H2:** When product attributes are emphasized in a gain or loss frame that is compatible with one’s self-regulatory focus, greater persuasion effects will be induced, such that:

**H2a:** Promotion-focused individuals are more likely to be persuaded by advertisements presenting hedonic attributes in a gain frame than those presenting hedonic attributes in a loss frame.

**H2b:** Prevention-focused individuals are more likely to be persuaded by advertisements presenting utilitarian attributes in a loss frame than those presenting utilitarian attributes in a gain frame.

Based on Higgins’ (2000) value-from-fit model, regulatory fit can enhance the value of the advertised product. When a message fits an individual’s regulatory orientation, the associated product will be evaluated as higher than when fit does not exist (Avnet & Higgins, 2006). This current research generalizes these findings by the use of different types of advertisements framing product attributes as gains or losses. This study argued that the fit among self-regulatory focus, product attributes, and message framing will affect the perceived monetary value of a given advertised product. When fit occurs, individuals are likely to assign a higher monetary
value to that chosen product.

This research expected an impact from regulatory fit on the perceived value of the product. It was predicted that when exposed to advertisements presenting hedonic attributes in a gain frame, promotion-focused individuals will assign more value to the advertised product than when exposed to those presenting hedonic attributes in a loss frame. On the other hand, when exposed to advertisements presenting utilitarian attributes in a loss frame, prevention-focused individuals will assign more value to the advertised product than when exposed to advertisements presenting utilitarian attributes in a gain frame.

H3: When product attributes emphasized in a gain or loss frame are compatible with one’s self-regulatory focus, individuals will perceive greater value of a given advertised product, such that:

H3a: Promotion-focused individuals exposed to advertisements presenting hedonic attributes in a gain frame will perceive the product as more valuable than those exposed to advertisements presenting hedonic attributes in a loss frame.

H3b: Prevention-focused individuals exposed to advertisements presenting utilitarian attributes in a loss frame will perceive the product as more valuable than those exposed to advertisements presenting utilitarian attributes in a gain frame.

Prior research indicates that in a condition favoring the employment of heuristic processing, positively framed messages have more persuasion effects than negatively framed messages. Conversely, in a condition favoring the employment of systematic processing, a negatively framed message was more influential than a positively framed message (Meyers-Levy & Malaviya, 1999; Meyers-Levy & Maheswaran, 2004). The reason is that when exposed to a positively framed message, people do not think about the message deliberately, but rather base
their processing on the superficial meaning of the message. Consequently, positive messages
tend to be processed less effortfully than negative messages, and more easily prompt heuristic
processing. Conversely, negative messages are by nature in opposition to one’s own thoughts
and feelings. Therefore, when exposed to a negatively framed message, people have a tendency
to scrutinize and deeply diagnose such messages. Consequently, negative messages tend to be
processed more thoroughly than positive messages, and more easily prompt systematic

Incorporating the compatibility effect of regulatory focus and message framing on
persuasion (Lee & Aaker, 2004) and the compatibility effect of regulatory orientation and
product attributes on product choice (Chernev, 2004), it is expected that when
promotion-focused individuals are exposed to an advertisement framing hedonic attributes as a
gain, heuristic processing is more likely to be induced than those framing utilitarian attributes as
a loss. On the other hand, when prevention-focused individuals are exposed to an advertisement
framing utilitarian attributes as a loss, systematic processing is more likely to be induced than
those framing hedonic attributes as a gain.

H4: When product attributes presented in gain or loss frames are compatible with one’s
self-regulatory focus, systematic or heuristic processing will be induced, such that:

$H_{4a}$: When promotion-focused individuals are exposed to advertisements presenting
hedonic attributes in gain frames, heuristic processing is more likely to occur than
when exposed to advertisements presenting utilitarian attributes in loss frames.

$H_{4b}$: When prevention-focused individuals are exposed to advertisements presenting
utilitarian attributes in loss frames, systematic processing is more likely to occur
than when exposed to advertisements presenting hedonic attributes in gain frames.
As discussed earlier, when gain- or loss-framed messages are consistent with one’s regulatory focus, the information is easier to process (Lee & Aaker, 2004). When fit exists, people will “feel right” (p.498) and thus, a more favorable brand attitude will be elicited (Camacho et al., 2003). People considered promotion-focused messages with gain-framed appeals to be easier to process than those with loss-framed messages. In addition, more favorable attitudes were reported toward gain-framed messages than loss-framed messages. On the other hand, people considered prevention-focused messages with loss-framed appeals to be easier to process than those with gain-framed messages. Attitudes toward loss-framed messages were reported as more favorable than those toward gain-framed messages. Therefore, it is reasonable to expect that promotion-focused individuals have more fluent processing, and then have a greater tendency to be persuaded when exposed to advertisements presenting hedonic attributes in a gain frame than those presenting utilitarian attributes in a loss frame. In contrast, people more easily process advertisements and have a greater tendency to be persuaded when exposed to advertisements framing utilitarian attributes as losses than those framing hedonic attributes as gains. Therefore, H5 and H6 are demonstrated as below.

H5: When product attributes are emphasized in a gain or loss frame that is compatible with one’s self-regulatory focus, individuals will find the message easier to process, such that:

H5a: Promotion-focused individuals will find advertisements presenting hedonic attributes in a gain frame easier to process than those presenting utilitarian attributes in a loss frame.

H5b: Prevention-focused individuals will find advertisements framing utilitarian attributes in a loss frame easier to process than those presenting hedonic attributes in gains.
H6: Processing fluency will mediate the relationship between fit and message effects.
CHAPTER 3: RESEARCH METHODS

Two pretests and one between-subject experiment were conducted to examine the above proposed hypotheses. The following sections discuss in detail the design of these two pretests and a full experiment.

Pretest I

Overview

The purpose of this pretest was to determine which attributes of products are perceived by participants to be clearly hedonic or utilitarian. Six products were used: walking shoes, toothpaste, shampoo, apartments, backpacks, and winter coats. These products have been readily employed in prior research, such as toothpaste (Chernev, 2004, Wang & Lee, 2006), shampoo (Chernev, 2004; Dhar & Wertenbroch, 2000), and apartments (Chernev, 2004). A total of 40 participants were recruited from undergraduate courses at the Pennsylvania State University for participation in the pretest. They were informed that the purpose of the study was to assess consumers’ perceptions of products in the marketplace. Participants were asked to write down four hedonic attributes and four utilitarian attributes of walking shoes, toothpaste, shampoo, apartments, backpacks, and winter coats, respectively, and then filled out demographic information, indicating gender, age, ethnicity, and major.

Participants were initially provided with definitions of hedonic and utilitarian attributes. Hedonic attributes refer to “pleasure,” “fantasy,” and “fun.” Utilitarian attributes refer to “practical,” “instrumental,” and “functional” features (Dhar & Wertenbroch, 2000, p. 61). A car was chosen as an example to illustrate hedonic and utilitarian attributes. The hedonic attributes of a car are its luxurious leather seats, 12-speaker surround sound system, panoramic vista/sun
roof, and DVD family entertainment system with two wireless headphones. The utilitarian attributes are its antilock braking system (ABS), immobilizer theft-deterrent system, fuel efficiency, and dual-stage front airbags. In order to ensure generalizability of the findings beyond a single product category, based on the results of the pretest, three products with clearly hedonic attributes and utilitarian attributes were used to design the advertisements.

**Results**

Findings from the pretest indicated that shampoo, backpacks, and toothpaste all had *clearly* hedonic attributes and utilitarian attributes respectively, and were thus incorporated in the design of the study. “Clearly hedonic” and “clearly utilitarian” mean that one attribute was not treated as both hedonic and utilitarian simultaneously. For example, the attribute of “invigorating the hair and making it shinny,” was classified strictly as a hedonic attribute of shampoo. According to the results of the pretest, shampoo, backpacks, and toothpaste had more clearly-defined hedonic and utilitarian attributes than all the other products. These attributes were then used to design the advertisements for the study. With respect to shampoo, thick, shinny, attractive, and fragrant features were viewed as hedonic attributes, whereas clean, healthy, strong, and manageable features were considered utilitarian attributes. In terms of the backpack, fashionable, attractive, stylish, and cool attributes were reported as hedonic features, whereas comfortable, durable, functional, and organized attributes were treated as utilitarian features. For toothpaste, having a luminous smile and fresh breath were defined as hedonic attributes, whereas having clean teeth and healthy gums were considered utilitarian features (see Table 2). See Appendix C for details of the design of the advertisements based on the attributes listed above.

In the pretest, however, attributes of a winter coat were reported as being both hedonic and utilitarian simultaneously, such as the quality of wood and fit. For an apartment, some attributes
were considered both hedonic and utilitarian, such as having extra space and a place to have a party. Therefore, due to the lack of clear distinctions between hedonic and utilitarian attributes, winter coats, apartments, and walking shoes were not used in the design of the study.

Pretest II

The second pretest was conducted to see whether the manipulation of attributes presented in a particular message frame in each advertisement works or not. Four versions of each advertisement promoting a shampoo, a backpack, and a toothpaste were designed based on the results of pretest I. A total of 39 participants were recruited from undergraduate courses at the Pennsylvania State University to participate in the study. Participants were informed that the purpose of this study was to ask about their perceptions of products in the marketplace. They were randomly assigned into one of two conditions.

In one condition, participants were exposed to six advertisements: a shampoo’s hedonic attributes framed as a gain, a shampoo’s utilitarian attributes framed as a gain, a backpack’s hedonic attributes framed as a loss, a backpack’s utilitarian attributes framed as a loss, a toothpaste’s hedonic attributes framed as a gain, and a toothpaste’s utilitarian attributes framed as a gain. In the other condition, participants were exposed to the other six advertisements: a shampoo’s hedonic attributes framed as a loss, a shampoo’s utilitarian attributes framed as a loss, a backpack’s hedonic attributes framed as a gain, a backpack’s utilitarian attributes framed as a gain, a toothpaste’s hedonic attributes framed as a loss, and a toothpaste’s utilitarian attributes framed as a loss.

In order to eliminate the possibility of carry-over, practice, or fatigue effects, counterbalancing was employed. In other words, the advertisements were counterbalanced by order of product. For example, in one condition, 7 participants were first exposed to two
shampoo advertisements, then two backpacks advertisements, and lastly two toothpaste
advertisements. Another 7 participants were exposed to two backpack advertisements, then two
toothpaste advertisements, and lastly two shampoo advertisements. Another 6 participants were
exposed to two toothpaste advertisements, then two shampoo advertisements, and lastly two
backpack advertisements. In the other condition, the same rules were applied.

In this pretest, there were two necessary tests that would determine: 1) whether the
attributes differed between the hedonic and utilitarian content for each of the two advertisements;
2) whether the gain/loss frame manipulation worked (see Appendix D). Therefore, the
questionnaire was comprised of two parts. First, participants were asked to read six product
attributes. For each, they responded to the statement, “the attributes highlighted in the ad, which
you have just read, are mostly utilitarian or hedonic.” The measure was adapted from Leclerc,
Schmitt, and Dubé (1994) and Dhar and Wertenbroch (2000) and the hedonic/utilitarian ratings
were anchored from 1 (utilitarian) to 7 (hedonic). The definitions for hedonic and utilitarian
attributes were provided to participants in advance. Next, participants were asked to indicate the
extent to which the advertisement emphasizes advantages of using the advertised product and the
disadvantages that result from not using the product. Ratings were anchored from 1 (strongly
disagree) to 7 (strongly agree).

**Manipulation Check for Ads on Product Attributes**

Responses to the manipulation check items for ads on shampoo, backpack, and toothpaste
attributes were subjected to paired-sample t-tests, respectively. First, this analysis yielded a
significant effect for shampoo’s hedonic attributes, $t(38) = 3.86, p < .001$. Participants who read
the shampoo advertisements that emphasized hedonic attributes were more likely to agree that
advertisements indeed highlighted hedonic attributes ($M = 5.05, SD=1.61$) than were participants
who read the advertisements that emphasized utilitarian attributes ($M = 2.28, SD = 1.17$). Second, this analysis showed a significant effect for shampoo’s utilitarian attributes, $t(38) = 8.62, p < .001$. Participants who read the shampoo advertisements that emphasized utilitarian attributes were more likely to agree that advertisements indeed highlighted utilitarian attributes ($M = 5.33, SD = 1.49$) than were participants who read the advertisements that emphasized hedonic attributes ($M = 3.90, SD = 1.74$) (see Table 3).

Third, the analysis yielded a significant effect for the backpack’s attributes, $t(38) = 10.43, p < .001$. Participants who read the backpack advertisements that emphasized hedonic attributes were more likely to agree that these advertisements indeed highlighted hedonic attributes ($M = 5.90, SD = 1.21$) than were participants who read the advertisements that emphasized utilitarian attributes ($M = 1.87, SD = 1.38$). Fourth, the analysis yielded a significant effect for the backpack’s utilitarian attributes, $t(38) = 10.43, p < .001$. Participants who read the backpack advertisements that emphasized utilitarian attributes were more likely to agree that these advertisements indeed highlighted utilitarian attributes ($M = 6.13, SD = 1.38$) than were participants who read the advertisements that emphasized hedonic attributes ($M = 2.10, SD = 1.21$) (see Table 3).

Fifth, the analysis also yielded a significant effect for toothpaste’s hedonic attributes, $t(38) = 5.60, p < .001$. Participants who read the toothpaste advertisements that emphasized hedonic attributes were more likely to agree that these advertisements indeed highlighted hedonic attributes ($M = 3.44, SD = 2.05$) than were participants who read the advertisements that emphasized utilitarian attributes ($M = 1.59, SD = .88$). Finally, the analysis also showed a significant effect for toothpaste’s utilitarian attributes, $t(38) = 5.60, p < .001$. Participants who read the toothpaste advertisements that emphasized utilitarian attributes were more likely to
agree that these advertisements indeed highlighted utilitarian attributes ($M = 6.41$, $SD = .88$) than were participants who read the advertisements that emphasized hedonic attributes ($M = 4.56$, $SD=2.05$) (see Table 3).

### Manipulation Check for Ads on Framing

A paired-sample t-test was used to examine message framing for ads featuring shampoo, a backpack, and toothpaste, respectively. The results indicated that these manipulations were indeed successful. The analysis for the shampoo advertisements framed as gains yielded a significant effect, $t(18) = 9.39, p < .001$. Results indicated that participants who read the advertisements framed as gains were more likely to agree that these advertisements were indeed framed as gains ($M = 5.82$, $SD = .89$) rather than as losses ($M = 2.26$, $SD=1.18$). Similarly, the analysis for the shampoo advertisements framed as losses yielded a significant effect, $t(19) = 3.84, p < .001$. The result indicated that participants who read the shampoo advertisements framed as losses were more likely to agree that the advertisements were indeed framed as losses ($M = 5.50$, $SD=1.03$) rather than as gains ($M = 3.55$, $SD=1.68$) (see Table 4).

The analysis for the backpack advertisements framed as gains yielded a significant effect as well, $t(19) = 10.67, p < .001$. The result indicated that participants who read the backpack advertisements framed as gains were more likely to agree that the advertisements were indeed framed as gains ($M = 6.00$, $SD = .79$) rather than as losses ($M = 2.35$, $SD=1.03$). The analysis for the backpack advertisements framed as losses yielded a significant effect as well, $t(18) = 3.30, p < .001$. The result indicated that participants who read the backpack advertisements framed as losses were more likely to agree that the advertisements were indeed framed as losses ($M = 5.50$, $SD = .142$) rather than as gains ($M = 3.39$, $SD=1.63$) (see Table 4).

The analysis for the toothpaste advertisements framed as gains yielded a significant effect,
The result indicated that participants who read the toothpaste advertisements framed as gains were more likely to agree that the advertisements were indeed framed as gains \((M = 5.79, SD = .80)\) rather than as losses \((M = 2.50, SD = 1.42)\). Similarly, the analysis for the toothpaste advertisements framed as losses yielded a significant effect, \(t(19) = 4.38, p < .001\). The result indicated that participants who read the toothpaste advertisements framed as losses were more likely to agree the fact that the advertisements were indeed framed as losses \((M = 5.78, SD = .92)\) rather than as gains \((M = 3.68, SD = 1.78)\) (see Table 4). Therefore, the manipulation check for advertisements on product attributes and message framing proved to be successful. However, because the mean differences in perception of toothpaste advertisements in the dimensions of hedonic vs. utilitarian and gain vs. loss were much smaller than those for the shampoo and backpack advertisements, toothpaste advertisements were not chosen as stimuli for the main study.
Main Experiment

Design

A 2 (Regulatory focus: promotion vs. prevention) x 2 (Products attributes: hedonic vs. utilitarian) x 2 (Message framing: gain vs. loss) between-subjects design was employed. This experimental design was aimed at examining the impact of the compatibility among self-regulatory focus, product attributes, and message framing on message effects and on information processing.

Participants and Procedure

A total of 215 participants were recruited from undergraduate courses at the Pennsylvania State University for the study. They were informed that the purpose of the study was to assess consumers’ perceptions of products in the marketplace. Participants were randomly assigned to one of the conditions (see Table 5). To manipulate regulatory focus, participants in the promotion condition were asked to list their childhood/current hopes and aspirations, whereas in the prevention condition, they were asked to list their childhood/current duties and obligations. Participants were also presented a paper-and-pencil maze. In the promotion condition, they were asked to guide a mouse out of the maze, so that the mouse can eat the cheese. In the prevention condition, they were asked to guide a mouse out of the maze and away from a hungry owl.

Participants were then exposed to two advertisements which were manipulated by product attributes: hedonic vs. utilitarian attributes presented in a gain or loss frame. After reading each advertisement, they were first asked to complete questions that assessed their brand attitude, attitude toward the advertisement, intentions to purchase the product, processing fluency, and information processing in terms of systematic vs. heuristic processing. Secondly, they responded
to a series of items that served as a manipulation check for advertisements with product attributes presented in a gain or loss frame. Lastly, self-reported demographic information was provided (see Figure 3 and Appendix E).

Manipulation of Regulatory Focus

Regulatory orientation can be classified in terms of two distinct motivational characteristics: promotion- and prevention-focused. Promotion-focused individuals are conceptualized as those who are inclined to pay attention to “accomplishments,” “aspirations” (Higgins, 1997, p. 1280), “advancement,” and “growth” (Crowe & Higgins, 1997, p. 117). Conversely, prevention-focused individuals refer to those who are more likely to pay attention to “safety,” “responsibility” (Higgins, 1997, p. 1280) and “security” (Crowe & Higgins, 1997, p. 120). In this study, self-regulatory focus was manipulated by listing personal self-representations and completing a paper-and-pencil maze. Self-regulatory focus was manipulated by combining two traditionally used methods. In one manipulation, participants were asked to describe how their current ideals or oughts had changed as they grew up (e.g., Higgins et al., 1986; Higgins et al., 1994; Liberman et al., 1999; Liberman et al., 2001; Freitas et al., 2002). In the other manipulation, situation priming was used, adapted from a paper-and-pencil maze designed by Friedman and Förster (2001). In the promotion priming condition, participants were asked to write down their current hopes and goals and how they differed from those during their childhood. In the prevention priming condition, participants reported their current duties and obligations and how they differed from those during their childhood.

For the paper-and-pencil maze, used in both the promotion and prevention conditions, a cartoon mouse was situated in the middle of the maze. Participants were asked to guide the mouse to safety. In the promotion condition, a piece of cheese was put outside the maze in front
of the entrance. Friedman and Förster (2001) assumed that this version would induce the motivation to “seek nurturance.” On the contrary, in the prevention condition, an owl looms above the maze and the mouse is portrayed as a prey. Friedman and Förster (2001) posited that this version would inspire the end result of “seeking security,” and the motivation here is to achieve safety.

**Manipulation of Ad Message Frames**

Hedonic attributes are conceptualized as “pleasure,” “fantasy,” and “fun,” whereas utilitarian attributes refer to “practical,” “instrumental,” and “functional” features (Dhar & Wertenbroch, 2000, p. 61). Message framing is conceptualized in terms of the benefits gained or lost with regards to a product (Maheswaran & Meyers-Levy, 1999). Message framing could be operationalized by applying either positive product attributes/benefits gained by the use of the product or negative product attributes/benefits lost by rejecting the use of the product (Salover et al., 2002; Maheswaran & Meyers-Levy, 1990). In this study, based on the hedonic and utilitarian attributes reported in the pretest, two products (shampoo and a backpack) with clearly distinct hedonic and utilitarian attributes were selected for the design of the advertisements. In each advertisement, product attributes were framed as gains or losses via the headline and context. In the gain-framed condition, the advertisement was framed in terms of the benefits gained by purchasing the product, whereas in the loss-framed condition, the advertisement was framed in terms of the benefits lost as a result of not purchasing the product.

For example, in the case of the backpack, the hedonic condition consisted of a headline, such as “*Stay one step ahead of fashion.*” This statement suggests an end-state of entertainment. In contrast, a headline, such as “*Don’t be left behind by fashion*” implies an unwanted end-state
of missing out or being left in the dark. Similarly, for the utilitarian condition, the gain-frame headline was “Gain comfort with a durable backpack,” and the loss frame headline was “Don’t get back pains from a flimsy backpack.” Therefore, each of the two products consisted of four conditions: hedonic attributes presented in a gain frame, hedonic attributes presented in a loss frame, utilitarian attributes presented in a gain frame, and utilitarian attributes presented in a loss frame (see Appendix C).

Measures

Dependent Variables

Brand Attitude: Brand attitude was assessed on three 7-point Likert-type scales anchored by (1=negative, unfavorable, bad; 7=positive, favorable, good) (Lee & Aaker, 2004). The scores were averaged to become a mean score of brand attitude (Cronbach’s α for the shampoo and backpack were .93 and .89, respectively).

Attitude toward the advertisement: Perceived persuasiveness was assessed on a Likert-type scale from 1 (not at all) to 7 (very much), asking the degree to which the participant perceived the advertisement to be: persuasive, convincing, effective, and coherent (Cesario et al., 2004, p. 393). The scores were averaged to become a mean score of attitude toward the advertisement (Cronbach’s α for the shampoo and backpack were .89 and .89, respectively).

Purchase Intention: Intention was assessed using two Likert-type scales from 1 (not at all) to 7 (very much), asking the extent to which they would consider buying the product soon and in the future (Meyers-Levy & Maheswaran, 2004). The scores were averaged to become a mean score of intention to purchase the brand. Furthermore, participants were asked: “To buy this brand, how much you are willing to pay?” (Higgins, 2000; Avnet & Higgins, 2003) (Cronbach’s α for the shampoo and backpack were .91 and .88, respectively).
**Systematic/Heuristic Thoughts:** Consistent with Maheswaran & Meyers-Levy (1990), systematic processing was operationalized in terms of the amount of message-related thoughts, whereas heuristic processing is operationalized as the amount of simple evaluative thoughts that represent universal appeal. In this study, a thought-listing measure was used to examine whether participants employed systematic or heuristic processing when they were exposed to the advertisements. Participants were asked to list their thoughts during exposure to the advertisements (the stimulus material). These thoughts were coded based on the categories used by Meyers-Levy and Maheswaran (2004), including “number of message-related thoughts and number of simple evaluative thoughts” (p.163).

Any thought has “conveyed explicit reference to” the message shown in the advertisement (Maheswaran & Meyers-Levy, 1990). For example, *This shampoo can make thin hair thicker* and *This backpack can make life easier by making me organized* constitute message-related thoughts. On the other hand, any thought is a simple/intuitive inference and represents universal appeal (Maheswaran & Meyers-Levy, 1990; Meyers-Levy & Malaviya, 1999). For example, *It is better than my old shampoo* and *This backpack is good for the outdoors* are characterized as simple evaluative thoughts. A graduate student in the College of Communications at Pennsylvania State University participated in ascertaining intercoder reliability. Following the instructions for coding open-ended questions (see Appendix F), a ten minute training was provided for coding. The coder was then given a coding table and coded the open-ended questions for 31 questionnaires. Results showed that the intercoder reliabilities for message-related thoughts in the shampoo advertisements and backpack advertisements were .82 and .79, respectively. Similarly, intercoder reliabilities for simple evaluative thoughts in the shampoo advertisements and backpack advertisements were .81 and .79, respectively.
**Fluency:** Fluency was assessed using three 7-point Likert-type scales (1 = *difficult to process, difficult to understand, not at all detailed; 7 = easy to process, easy to understand, extremely detailed*) (Lee & Aaker, 2004) (Cronbach’s α for the shampoo and backpack were .88 and .89, respectively).
CHAPTER 4: RESULTS

Among the total number of participants (N =215), three did not complete the study and one did not follow the manipulation instructions. Therefore, they were excluded from the analysis and responses of 211 participants were assessed (75 males; 136 females). Within this sample, ages ranged from 20 to 40 years (M = 21.91), with the majority of respondents (73.6%) being 20 or 21 years of age. About 49.8% of respondents have been enrolled in college for three years, 38.4% for four years, 1.4% for two years, and 10.4% for other numbers of years. With respect to majors, 59.4% reported being in communications, 28.4% were in marketing, 2.8% were in education, and 9.4% were in other majors. Among those in the sample, 82% were White, 9.0 % were Asians, 4.3% were African American, 1.4 % were Hispanic/Latino and 3.3% were listed as Other. Means, standard deviations, and correlations of the dependent variables are presented on Tables 6 and 7.

Prior to testing the hypotheses, all variables were checked for normality in terms of distribution. Skewness between -1.0 and +1.0 is not viewed “to be too extreme” and is considered a normal distribution (Huck, 2000, p.34; Morgan, Griego & Gloeckner, 2001). The skewness of brand attitude, attitude toward the advertisement, perceived value of the product, simple evaluative thoughts, and processing fluency for shampoo and backpack advertisements, respectively, were between -1 and 1. Therefore, these dependent variables have a normal distribution across levels of self-regulatory focus, product attributes, and message framing. In addition, the skewness of message-related thoughts was between -1 and 1. This variable has a normal distribution across levels of self-regulatory focus and product attributes in the shampoo advertisements and self-regulatory focus in the backpack advertisements, respectively. However, in the shampoo advertisements the skewness of purchase intention for self-regulatory focus and
product attributes and the skewness of message-related thoughts for message framing and in the backpack advertisements the skewness of purchase intention for product attributes and the skewness of message-related thoughts for product attributes and message framing did not fall between -1 and 1, but there were more than 25 participants in each condition of the independent variable and a relatively equal number of participants in each cell. The MANOVA and ANOVA tests were therefore considered to be robust.

Concerning the Levene's Test of Homogeneity of Variance, for shampoo advertisements, results showed that there was equal variance in the brand attitude, attitude toward the advertisements, perceived value of the product, message-related thoughts, and processing fluency across the levels of the self-regulatory focus, product attributes, and message framing, respectively, $F(7, 203) = 1.60, p > .05$, $F(7, 203) = 2.08, p > .05$, $F(7, 203) = 1.47, p > .05$, $F(3, 207) = 2.49, p > .05$, and $F(7, 203) = 1.92, p > .05$. However, there is no equal variance in purchase intention and simple evaluative thoughts for shampoo advertisements, $F(7, 203) = 3.66, p < .01$ and $F(7, 203) = 3.53, p < .01$. In addition, results from the backpack advertisements showed that there was equal variance in brand attitude across the levels of self-regulatory focus and brand attributes, attitude toward the advertisement, perceived value of the product, and simple evaluative thoughts, $F(7, 203) = .96, p > .05 (p = .46)$, $F(7, 203) = 1.36, p > .05 (p = .23)$, and $F(7, 200) = .63, p > .05 (p = .73)$, and $F(7, 203) = .71, p > .05 (p = .66)$. However, there is no equal variance in purchase intention, message-related thoughts, and processing fluency, $F(7, 203) = 2.96, p < .01 (p = .006)$, $F(7, 203) = 4.63, p < .001$, and $F(7, 203) = 2.46, p < .05 (p = .02)$, but the sufficient sample size per condition ($N = 25$) and relatively equal number of participants in each condition for both advertisements suggest that there is no violation of equal variance (Glass, Peckham, & Sanders, 1972).
Manipulation Checks

Manipulation checks were conducted to ensure that for each product advertisement, the attributes differed in hedonic and utilitarian content. As previously stated, the manipulation check was adapted from Leclere et al. (1994) and Dhar and Wertenbroch (2000), in which hedonic/utilitarian ratings were reported on 7-point Likert scales. For each of the product attributes presented, participants indicated the degree to which each attribute was mostly utilitarian or hedonic. Next, they reported the extent to which they felt the advertisement emphasized the advantages/disadvantages of using/not using the product. These two scores were averaged to construct a mean score for message framing (Cronbach’s α is .71 and .67, respectively).

Results revealed manipulation checks for advertisements on shampoo and backpack attributes were indeed successful. First, this analysis yielded a significant effect for shampoo’s hedonic attributes. Participants who read shampoo advertisements emphasizing hedonic attributes were more likely to agree these advertisements as highlighting hedonic attributes ($M = 4.17, SD = 1.86$), compared to those who read advertisements emphasizing utilitarian attributes ($M = 2.46, SD = 1.59$), $t(209) = 7.20, p < .001$. Similarly, this analysis showed a significant effect for shampoo utilitarian attributes. Participants who read shampoo advertisements featuring utilitarian attributes were more likely to agree that advertisements indeed highlighted utilitarian attributes ($M = 5.54, SD = 1.59$), compared to those who read advertisements featuring hedonic attributes ($M = 3.83, SD = 1.86$), $t(209) = 7.20, p < .001$.

Second, the analysis revealed a significant effect for backpack attributes. Participants who read backpack advertisements highlighting hedonic attributes were more likely to agree that these advertisements were emphasizing hedonic attributes ($M = 4.99, SD = 1.81$), compared to
those who read advertisements highlighting utilitarian attributes ($M = 1.92, SD = 1.23$), $t(209) = 14.50, p < .001$. Similarly, the analysis showed a significant effect for backpack attributes. Participants who read backpack advertisements emphasizing utilitarian attributes were more likely to agree that these advertisements were indeed highlighting utilitarian attributes ($M = 6.08, SD = 1.23$), compared to those who read advertisements highlighting hedonic attributes ($M = 3.01, SD = 1.81$), $t(209) = 14.50, p < .001$.

Results revealed that manipulation checks for message framing on shampoo and backpack advertisements were indeed successful. First, the analysis for the shampoo advertisements framed as gains yielded a significant effect. Participants who read shampoo advertisements framed as gains were more likely to agree that these advertisements were framed as gains ($M = 5.57, SD = 1.11$), compared to those who read advertisements framed as losses ($M = 3.30, SD = 1.69$), $t(209) = 11.61, p < .001$. Similarly, the analysis yielded a significant effect for shampoo advertisements framed as losses. Participants who read shampoo advertisements framed as losses were more likely to agree that these advertisements were indeed framed as losses ($M = 4.70, SD = 1.69$), compared to those who read advertisements framed as gains ($M = 2.43, SD = 1.11$), $t(209) = 11.61, p < .001$.

Second, the analysis for the backpack advertisements framed as gains yielded a significant effect as well. Participants who read backpack advertisements framed as gains were more likely to agree that these advertisements were indeed framed as gains ($M = 5.44, SD = 1.20$), compared to those who read advertisements framed as losses ($M = 3.23, SD = 1.42$), $t(209) = 12.18, p < .001$. Similarly, the analysis for the backpack advertisements framed as losses showed a significant effect. Participants who read backpack advertisements framed as losses were more likely to agree that these advertisements were indeed framed as losses ($M = 4.77, SD = 1.42$),
compared to those who read advertisements framed as gains ($M = 2.56, SD = 1.20$), $t(209) = 12.18, p < .001$. Therefore, these findings lend support for the successful manipulation of message framing.

Before testing the hypotheses, respondents’ brand attitude, attitude toward the advertisement, and purchase intention were separately examined using a 2 (Regulatory focus: promotion vs. prevention) x 2 (Product attributes: hedonic vs. utilitarian) x 2 (Message framing: gain vs. loss) x 2 (Advertisements: shampoo vs. backpack) mixed model repeated measures ANOVA. The first three independent variables were between-subjects factors and the last one was a within-subjects factor. Results failed to show significant Self-regulatory Focus x Product Attributes x Message Framing x Advertisements interactions for attitude toward brand, $F(1, 203) = .65, p = .42$, partial $\eta^2 = .00$, and advertisements $F(1, 203) = 1.06, p = .31$, partial $\eta^2 = .01$, and purchase intention, $F(1, 203) = .40, p = .53$, partial $\eta^2 = .00$. Since there were no significant differences of attitude toward brand and the advertisement, and purchase intention between the two advertising conditions, a 2 (Regulatory focus: promotion vs. prevention) x 2 (Product attributes: hedonic vs. utilitarian) x 2 (Message framing: gain vs. loss) MANOVA was conducted to examine these three dependent variables on shampoo and backpack advertisements, respectively. Follow-up contrasts were also conducted to identify differences in the means of advertisement effectiveness across conditions.

For shampoo advertisements, MANOVA showed that there were significant main effects for self-regulatory focus and message framing, Wilks' $\Lambda = .93, F(3, 201) = 4.98, p < .01$, partial $\eta^2 = .07$ and Wilks' $\Lambda = .93, F(3, 201) = 4.89, p < .01$, partial $\eta^2 = .07$, respectively. Significant two-way interaction effects surfaced between self-regulatory focus and product attributes, Wilks' $\Lambda = .94, F(3, 201) = 4.58, p < .01$, partial $\eta^2 = .06$, self-regulatory focus and message framing,
Wilks' $\Lambda = .92, F(3, 201) = 6.14, p < .01, \text{ partial } \eta^2 = .08, \text{ and product attributes and message framing, Wilks' } \Lambda = .94, F(3, 201) = 4.66, p < .01, \text{ partial } \eta^2 = .07$. In addition, a significant three-way interaction effect surfaced among self-regulatory focus, product attributes, and message framing, Wilks' $\Lambda = .93, F(3, 201) = 5.34, p < .01, \text{ partial } \eta^2 = .07$. However, there was no main significant effect for product attributes, Wilks' $\Lambda = .97, F(3, 201) = 2.05, p = .11, \text{ partial } \eta^2 = .03$ (see Table 8).

For backpack advertisements, results of the MANOVA failed to show significant main effects for self-regulatory focus, product attributes, and message framing, Wilks' $\Lambda = .97, F(3, 201) = 2.41, p = .07, \text{ partial } \eta^2 = .04$, Wilks' $\Lambda = .98, F(3, 201) = 1.21, \text{ and } p = .31, \text{ partial } \eta^2 = .02$, Wilks' $\Lambda = .96, F(3, 201) = 2.52, p = .06, \text{ partial } \eta^2 = .04$, separately. Results also did not show significant interactions between self-regulatory focus and product attributes, Wilks' $\Lambda = .97, F(3, 201) = 2.26, p = .08, \text{ partial } \eta^2 = .03$, self-regulatory focus and message framing, Wilks' $\Lambda = .96, F(3, 201) = 2.54, p = .06, \text{ partial } \eta^2 = .04$, product attribute and message framing, Wilks' $\Lambda = .96, F(3, 201) = 2.56, p = .06, \text{ partial } \eta^2 = .04$, and self-regulatory focus, product attributes and message framing, Wilks' $\Lambda = .98, F(3, 201) = 1.37, p = .25, \text{ partial } \eta^2 = .02$, respectively (see Table 8).

**Test of Hypothesis 1: Regulatory Focus and Product Attributes’ Interaction on Persuasion**

H$_{1a}$ proposes that promotion-focused individuals are more likely to be persuaded by advertisements emphasizing hedonic attributes than those highlighting utilitarian attributes. On the other hand, H$_{1b}$ proposes that prevention-focused individuals are more likely to be persuaded by advertisements emphasizing utilitarian attributes than those highlighting hedonic attributes. Regarding shampoo advertisements, consistent with expectations, the univariate analysis showed
significant Self-regulatory Focus x Product Attributes interactions for brand attitude, $F(1, 203) = 10.34, p < .01$, partial $\eta^2 = .00$, attitude toward the advertisement, $F(1, 203) = 5.33, p < .05$, partial $\eta^2 = .03$, and purchase intention, $F(1, 203) = 10.18, p < .01$, partial $\eta^2 = .05$. Follow-up planned contrasts$^1$ showed that promotion-focused participants had significantly stronger attitudes toward brand ($M = 4.43, SE = .19$ vs. $M = 3.96, SE = .18$; $t(203) = 1.80, p < .05$, partial $\eta^2 = .02$) and advertisements ($M = 3.57, SE = .17$ vs. $M = 2.90, SE = .17$; $t(203) = 2.84, p < .01$, partial $\eta^2 = .04$) and greater purchase intention ($M = 2.90, SE = .19$ vs. $M = 2.15, SE = .19$; $t(203) = 2.86, p < .01$, partial $\eta^2 = .04$) when exposed to shampoo advertisements presenting hedonic attributes than when exposed to those presenting utilitarian attributes.

Prevention-focused participants reported significantly stronger brand attitudes ($M = 3.90, SE = .17$ vs. $M = 3.21, SE = .18$; $t(203) = 2.76, p = .01$, partial $\eta^2 = .04$) and greater purchase intention ($M = 2.26, SE = .18$ vs. $M = 1.83, SE = .19$; $t(203) = 1.66, p < .05$ partial $\eta^2 = .01$) when exposed to shampoo advertisements presenting utilitarian attributes than when exposed to those presenting hedonic attributes (see Figures 4, 5, and 6). However, follow-up analysis did not reveal a significant mean difference of attitudes toward the advertisement for prevention-focused individuals, $t(203) = .38, p = .35$, partial $\eta^2 = .00$, but the pattern exists in which prevention-focused participants reported stronger attitudes toward the advertisements when exposed to advertisements presenting utilitarian attributes ($M = 3.07, SE = .16$) than when exposed to those presenting hedonic attributes ($M = 2.99, SE = .17$).

Concerning backpack advertisements, results also showed a significant Self-regulatory Focus X Product Attributes interaction for attitude toward brand, $F(1, 203) = 3.93, p < .05$, 

---

$^1$ One-tailed tests were used on all planned contrasts in this study.
partial $\eta^2 = .02$ and the advertisement, $F(1, 203) = 4.22, p < .05$, partial $\eta^2 = .02$ and purchase intention, $F(1, 203) = 5.88, p < .05$, partial $\eta^2 = .03$. Follow-up planned contrasts showed that prevention-focused participants reported stronger attitude toward brand ($M = 4.07, SE = .19$ vs. $M = 3.45, SE = .20, t(203) = 3.93, p < .05$, partial $\eta^2 = .02$) the advertisement ($M = 3.52, SE = .19$ vs. $M = 3.01, SE = .19, t(203) = 1.91, p < .05$, partial $\eta^2 = .02$) and greater purchase intention ($M = 2.70, SE = .18$ vs. $M = 1.93, SE = .19, t(203) = 2.99, p < .01$, partial $\eta^2 = .04$.) when exposed to backpack advertisements presenting utilitarian attributes than when exposed to those presenting hedonic attributes (see Figures 7, 8, and 9). However, follow-up planned contrast analysis failed to reveal a significant mean difference of attitudes toward brand and the advertisement and purchase intention for promotion-focused individuals, $t(203) = .57, p = .28$, partial $\eta^2 = .00$, $t(203) = 1.02, p = .16$, partial $\eta^2 = .01$ and $t(203) = .48, p = .32$, partial $\eta^2 = .00$, respectively, but the pattern exists in which promotion-focused participants had stronger attitude toward brand ($M = 4.29, SE = .20$ vs. $M = 4.13, SE = .20$) and the advertisement ($M = 3.49, SE = .19$ vs. $M = 3.21, SE = .20$) and greater purchase intention ($M = 2.39, SE = .19$ vs. $M = 2.26, SE = .19$) when exposed to backpack advertisements presenting hedonic attributes than when exposed to those presenting utilitarian attributes. Therefore, based on the above findings on both advertisements, the univariate for attitude toward brand, advertisements and purchase intention showed a significant two-way interaction of self-regulatory focus and product attributes for both product advertisements. Follow-up planned contrasts partially supported $H_{1a}$ and strongly supported $H_{1b}$.

Test of Hypothesis 2: Regulatory Focus, Attributes, and Framing Interaction on Persuasion

$H_{2a}$ proposes that promotion-focused individuals are more likely to be persuaded by
advertisements presenting hedonic attributes in a gain frame than those presenting hedonic attributes in a loss frame. On the other hand, H2b proposes that prevention-focused individuals are more likely to be persuaded by advertisements presenting utilitarian attributes in a loss frame than those presenting utilitarian attributes in a gain frame. Regarding shampoo advertisements, as hypothesized, the univariate analysis for attitudes toward brand and the advertisement revealed a significant Self-regulatory Focus x Product Attributes x Message Framing interaction, \( F(1, 203) = 4.20, p < .05, \text{ partial } \eta^2 = .02 \) and \( F(1, 203) = 4.07, p < .05, \text{ partial } \eta^2 = .02 \). Follow-up planned contrasts showed that promotion-focused participants had significantly stronger attitudes toward brand (\( M = 5.10, SE = .24 \) vs. \( M = 3.76, SE = .28 \); \( t(203) = 3.65, p < .001, \text{ partial } \eta^2 = .06 \)) and advertisements (\( M = 4.16, SE = .22 \) vs. \( M = 2.99, SE = .26 \); \( t(203) = 3.45, p < .01, \text{ partial } \eta^2 = .06 \)) when exposed to shampoo advertisements presenting hedonic attributes in a gain frame than when exposed to those presenting hedonic attributes in a loss frame (see Figures 10a and 11a). Prevention-focused participants reported significantly stronger brand attitudes (\( M = 4.14, SE = .24 \) vs. \( M = 3.66, SE = .25 \); \( t(203) = 1.40, p = .82, \text{ partial } \eta^2 = .06 \)) and marginally significantly stronger attitudes toward the advertisements (\( M = 3.42, SE = .22 \) vs. \( M = 2.72, SE = .23 \); \( t(23) = 2.21, p < .05, \text{ partial } \eta^2 = .02 \)) when exposed to shampoo advertisements presenting utilitarian attributes in a loss frame than when exposed to those presenting utilitarian attributes in a gain frame (see Figures 10b and 11b).

However, the univariate analysis for purchase intention failed to reveal a significant Self-regulatory Focus x Product Attributes x Message Framing interaction, \( F(1, 203) = .13, p = .72, \text{ partial } \eta^2 = .00 \), but it showed a pattern consistent with Hypothesis 2. Results showed that promotion-focused participants reported greater purchase intention when exposed to shampoo advertisements presenting hedonic attributes in a gain frame (\( M = 3.47, SE = .25 \)) than when
exposed to those presenting hedonic attributes in a loss frame ($M = 2.34, SE = .29$).

Prevention-focused participants reported higher purchase intention when exposed to shampoo advertisements presenting utilitarian attributes in a loss frame ($M = 2.72, SE = .25$) than when exposed to those advertisements presenting utilitarian attributes in a gain frame ($M = 1.79, SE = .25$).

Concerning backpack advertisements, the univariate analysis failed to reveal significant Self-regulatory Focus × Product Attributes × Message Framing interactions for attitudes toward brand, $F(1, 203) = 1.03, p = .31$, partial $\eta^2 = .01$ and the advertisement, $F(1, 203) = .50, p = .48$, partial $\eta^2 = .00$ and purchase intention, $F(1, 203) = .19, p = .67$ partial $\eta^2 = .00$, but the pattern is consistent with Hypothesis 2. Results showed that promotion-focused participants reported stronger attitudes toward brand ($M = 5.09, SE = .26$ vs. $M = 3.49, SE = .30$) and the advertisement ($M = 3.95, SE = .26$ vs. $M = 3.03, SE = .30$), and greater purchase intention ($M = 2.83, SE = .25$ vs. $M = 1.96, SE = .28$) when exposed to backpack advertisements framing hedonic attributes as gains than when exposed to those framing hedonic attributes as losses. Prevention-focused participants reported stronger attitudes toward brand ($M = 4.24, SE = .26$ vs. $M = 3.89, SE = .27$) and the advertisement ($M = 3.66, SE = .26$ vs. $M = 3.38, SE = .26$) and greater purchase intention ($M = 2.91, SE = .25$ vs. $M = 2.48, SE = .25$) when exposed to backpack advertisements framing utilitarian attributes as losses than when exposed to those framing utilitarian attributes as gains (see Table 6). According to the above findings, for the shampoo advertisement, a significant three-way interaction of self-regulatory focus, product attributes, and message framing on evaluations of product and advertisement surfaced. However, this result did not appear for the backpack advertisement. Overall, those results partially supported $H_{2a}$ and $H_{2b}$. 
Test of Hypothesis 3: Regulatory Focus, Attributes, and Framing Interaction’s Effect on Perceived Value of the Product

H₃ₐ proposed that promotion-focused individuals exposed to advertisements presenting hedonic attributes in a gain frame will perceive the product as more valuable than those exposed to advertisements presenting hedonic attributes in a loss frame. On the other hand H₃ₐ presented that prevention-focused individuals exposed to advertisements presenting utilitarian attributes in a loss frame will perceive the product as more valuable than those exposed to advertisements presenting utilitarian attributes in a gain frame. A 2 (Regulatory focus: promotion vs. prevention) x 2 (Products attributes: hedonic vs. utilitarian) x 2 (Message Framing: gain vs. loss) ANOVA was conducted to examine perceived value of the product

With respect to shampoo advertisements, results of the ANOVA failed to reveal a significant Self-regulatory Focus x Product Attributes x Message Framing interaction, $F(1, 203) = 1.33, p = .25$, partial $\eta^2 = .01$, but the pattern is consistent with Hypothesis 3. Results showed that promotion-focused participants reported higher perceived value of the product when exposed to shampoo advertisements presenting hedonic attributes in a gain frame ($M = 5.64, SE = .55$) than when exposed to those presenting hedonic attributes in a loss frame ($M = 2.98, SE = .63$). For prevention-focused participants, they reported higher perceived value of the product when exposed to shampoo advertisements presenting utilitarian attributes in a loss frame ($M = 4.72, SE = .55$) than when exposed to those presenting utilitarian attributes in a gain frame ($M = 3.21, SE = .56$) (see Table 9).

Regarding backpack advertisements, results failed to reveal a significant Self-regulatory Focus x Product Attributes x Message Framing interaction, $F(1, 200) = .92, p = .34$, partial $\eta^2 = .01$, but the pattern is consistent with Hypothesis 3. Results showed that promotion-focused participants reported higher perceived value of the product when exposed to backpack
advertisements presenting hedonic attributes in a gain frame \((M = 23.07, SE=2.01)\) than when exposed to those presenting hedonic attributes in a loss frame \((M = 14.95, SE=2.32)\). Prevention-focused participants reported higher perceived value of the product when exposed to backpack advertisements presenting utilitarian attributes in a loss frame \((M = 22.33, SE = 2.02)\) than when exposed to those presenting utilitarian attributes in a gain frame \((M = 18.32, SE = 2.05)\) (see Table 9). Based on the above findings on both advertisements, there was no significant three-way interaction of self-regulatory focus, product attributes and message framing on perceptions of a product’s value. Therefore, \(H_{3a}\) and \(H_{3b}\) were not supported.

**Test of Hypothesis 4: Regulatory Focus, Attributes, and Framing Interaction on Information Processing**

\(H_{4a}\) proposed that when promotion-focused individuals are exposed to advertisements presenting hedonic attributes in a gain frame, heuristic processing is more likely to occur than when exposed to advertisements presenting utilitarian attributes in a loss frame. On the other hand, \(H_{4b}\) proposed that when prevention-focused individuals are exposed to advertisements presenting utilitarian attributes in a loss frame, systematic processing is more likely to occur than when exposed to advertisements presenting hedonic attributes in a gain frame. A 2 (Regulatory focus: promotion vs. prevention) x 2 (Product Attributes: hedonic vs. utilitarian) x 2 (Message Framing: gain vs. loss) ANOVA on heuristic processing (as measured by the amount of simple evaluative thoughts) and systematic processing (as measured by the amount of message-related thoughts) was conducted separately.

Concerning shampoo advertisements, results yielded the expected Self-regulatory Focus x Product Attributes x Message Framing interactions on heuristic processing, \(F(1, 203) = 9.70, p < .01, \text{ partial } \eta^2 = .05\), and systematic processing, \(F(1, 203) = 4.01, p < .05, \text{ partial } \eta^2 = .02\).
respectively. Follow-up planned contrasts showed that when promotion-focused participants were exposed to shampoo advertisements presenting hedonic attributes in a gain frame, heuristic processing was more likely to occur ($M = 3.59, SE = .36$ vs. $M = 2.04, SE = .20, t(53) = 3.66, p < .001$) and systematic processing was less likely to happen than when exposed to those presenting utilitarian attributes presented in a loss frame ($M = 1.28, SE = 1.56$ vs. $M = 4.59, SE = 1.68, t(56) = 7.79, p < .001$) (see Table 9). In addition, follow-up planned contrasts showed that when prevention-focused participants were exposed to shampoo advertisements presenting utilitarian attributes in a loss frame, systematic processing was more likely to occur ($M = 4.31, SE = .36$ vs. $M = 3.15, SE = .33, t(53) = 2.39, p < .05$) and heuristic processing was less likely to happen ($M = 1.24, SE = .91$ vs. $M = 2.42, SE = 1.55, t(53) = 3.48, p < .01$) than when exposed to those presenting hedonic attributes presented in a gain frame (see Table 9).

Regarding backpack advertisements, results yielded the expected Self-regulatory Focus x Product Attributes x Message Framing interactions on heuristic processing, $F(1, 203) = 16.71, p < .001$, partial $\eta^2 = .08$, and systematic processing, $F(1, 203) = 4.09, p < .05$, partial $\eta^2 = .02$.

Follow-up planned contrasts showed when promotion-focused participants were exposed to backpack advertisements presenting hedonic attributes in a gain frame, heuristic processing was more likely to occur ($M = 4.83, SE = .28$ vs. $M = 1.77, SE = .24, t(53) = 8.30, p < .001$) and systematic processing was less likely to occur ($M = .69, SE = .93$ vs. $M = 3.27, SE = 1.15, t(53) = 9.18, p < .01$) than when exposed to those presenting utilitarian attributes in a loss frame. In addition, results revealed a significant Self-regulatory Focus x Product Attributes x Message Framing interaction. Follow-up planned contrasts showed that when prevention-focused participants were exposed to backpack advertisements presenting utilitarian attributes in a loss frame, systematic processing is more likely to occur ($M = 4.24, SE = .38$ vs. $M = 1.96, SE = .34$,
and heuristic processing is less likely happen \( (M = 2.65, SE=1.60 \text{ vs. } M = 1.28, SE=1.03, t(53) = 3.84, p < .001) \) than when exposed to those presenting hedonic attributes in a gain frame (see Table 9). According to the above findings, for both product advertisements, a significant three-way interaction of self-regulatory focus, product attributes, and message framing on heuristic processing and systematic processing, respectively, was found. Overall, those results fully supported H4a and H4b.

**Test of Hypothesis 5: Regulatory Focus, Attributes, and Framing Interaction on Fluency**

Hypothesis H5a proposes that promotion-focused individuals will find advertisements presenting hedonic attributes in a gain frame easier to process than those presenting utilitarian attributes in a loss frame. On the other hand, H5b proposes that prevention-focused individuals will find advertisements framing utilitarian attributes in a loss frame easier to process than those presenting hedonic attributes in a gain frame. A one-way ANOVA was conducted to assess processing fluency between fit and non-fit. Fit refers to either the compatibility of a hedonic product attribute framed as a gain with an individual’s promotion orientation, or the compatibility of a utilitarian product attribute framed as a loss with an individual’s prevention orientation. Fit was coded 1. On the other hand, non-fit refers to the incompatibility of a hedonic product attribute framed as a gain with an individual’s prevention orientation or the incompatibility of a utilitarian product attribute framed as a loss with an individual’s promotion orientation. Non-fit was coded 0.

Results of one-way ANOVA from shampoo advertisements showed that participants found advertisements which fit their regulatory orientation easier to process \( (M = 5.48, SE = .19) \) than those which do not fit their regulatory orientation \( (M = 3.61, SE = .23), F(1, 108) = 40.03, p < .001. \) Similarly, results of one-way ANOVA from backpack advertisements revealed that
participants found advertisements which fit their regulatory orientation easier to process ($M = 5.49, SE = .20$) than those which do not fit their regulatory orientation ($M = 3.80, SE = .25$), $F(1, 108) = 28.99, p < .001$. Based on the above findings of one-way ANOVA, the results supported $H_{5a}$ and $H_{5b}$.

**Test of Hypothesis 6: Processing Fluency between Regulatory Fit and Persuasion**

With respect to shampoo advertisements, in order to examine whether processing fluency mediates the relationship between regulatory fit and persuasion, based on the guidelines of Baron and Kenny’s (1986) procedures, a series of regression analyses were conducted. Regarding brand attitude, first, fit had a significant effect on brand attitude ($\beta = .29), t(108) = 3.19, p < .01$. Second, fit on processing fluency was also found to be significant ($\beta = .52), t(108) = 6.33, p < .001$. Finally, processing fluency was also included in this model as a predictor of brand attitude. Findings showed that processing fluency was significant ($\beta = .30), t(107) = 2.82, p < .01$ and fit became non-significant ($\beta = .14), t(107) = 1.34, p = .18$.

Concerning attitudes toward the advertisement, first, fit had a significant effect on attitudes toward the advertisement ($\beta = .39), t(108) = 4.33, p < .001$. Second, fit on processing fluency was also found to be significant ($\beta = .52), t(108) = 6.33, p < .001$. Finally, processing fluency was also included in this model as a predictor of attitudes toward the advertisement. Findings showed that processing fluency was significant ($\beta = .48), t(107) = 5.16, p < .001$ and fit became non-significant ($\beta = .13), t(10) = 1.43, p = .16$.

Regarding purchase intention, first, fit had a significant effect on purchase intention ($\beta = .36), t(108) = 3.95, p < .001$. Second, fit on processing fluency was also found to be significant ($\beta = .52), t(108) = 6.326, p < .001$. Finally, processing fluency was also included in this model as
a predictor of attitudes toward the advertisement. Findings showed that processing fluency was significant ($\beta = .39$), $t(107) = 3.97$, $p < .001$ and fit became non-significant ($\beta = .15$), $t(107) = 1.53$, $p = .13$. Furthermore, the strength of the indirect effect can be examined by the Sobel test (Preacher & Hayes, 2004). A Sobel test confirmed this mediating effect underlying the fit on brand attitudes ($z = 2.54$, $p < .05$), attitude toward the advertisement ($z = 4.10$, $p < .001$) and purchase intention, ($z = 3.24$, $p < .01$), respectively. Therefore, results support the mediational role (see Figure 12).

With respect to backpack advertisements, in order to examine whether processing fluency mediates the relationship between regulatory fit and persuasion, a series of regression analyses were conducted. Regarding brand attitudes, first, fit had a significant effect on brand attitudes ($\beta = .30$), $t(108) = 3.19$, $p < .01$. Second, fit on processing fluency was also found to be significant ($\beta = .46$), $t(108) = 5.38$, $p < .001$. Finally, processing fluency was also included in this model as a predictor of brand attitudes. Findings showed that processing fluency was significant ($\beta = .50$), $t(107) = 5.43$, $p < .001$ and fit became non-significant ($\beta = .07$), $t(107) = .71$, $p = .48$.

Concerning attitudes toward the advertisements, first, fit had a significant effect on attitudes toward the advertisements ($\beta = .20$), $t(108) = 2.09$, $p < .05$. Second, fit on processing fluency was also found to be significant ($\beta = .46$), $t(107) = 5.38$, $p < .001$. Finally, processing fluency was also included in this model as a predictor of attitudes toward the advertisements. Findings showed that processing fluency was significant ($\beta = .54$), $t(107) = 5.77$, $p < .001$ and fit became non-significant ($\beta = .05$), $t(107) = 5.42$, $p = .59$.

Regarding purchase intention, first, fit had a significant effect on purchase intention ($\beta = .24$), $t(108) = 2.54$, $p < .05$. Second, fit on processing fluency was also found to be significant ($\beta = .46$), $t(108) = 5.38$, $p < .001$. Finally, processing fluency was also included in this model as
a predictor of attitudes toward the advertisements. Findings showed that processing fluency was significant ($\beta = .32$), $t(107) = 3.11$, $p < .01$ and fit became non-significant ($\beta = .09$), $t(107) = .91$, $p = .37$. Furthermore, a Sobel test confirmed this mediating effect underlying the fit on brand attitudes ($z = 3.78$, $p < .001$), attitudes toward the advertisements ($z = 3.99$, $p < .001$) and purchase intention, ($z = 2.63$, $p < .01$), respectively. Therefore, results support that processing fluency mediates fit on persuasion (see Figure 13). According to the results from both advertisements, H6, stating that processing fluency will mediate the relationship between fit and message effects, was fully supported.
CHAPTER 5: DISCUSSION

The purpose of this research is to examine the effects of regulatory fit among an individual’s regulatory orientation, product attributes, and message framing on information processing and message effects. This paper extends prior research on message framing by exploring self-regulatory focus theory, product attributes, and information processing. Summaries of findings in this study, interpretation of results, theoretical and practical implications, limitations, and possible directions for future research are described in the following sections.

Effect of Goal–Attribute Compatibility

Findings are consistent with the hypothesis, demonstrating that when product attributes emphasized in advertisements are compatible with one’s self-regulatory focus, greater persuasion effects will be induced. In other words, promotion-focused individuals exhibited stronger attitudes toward brands and advertisements, as well as greater intention to purchase the product when exposed to advertisements presenting hedonic attributes, than when exposed to such advertisements presenting utilitarian attributes. On the contrary, prevention-focused individuals exhibited stronger attitudes toward brands and advertisements, as well as greater intention to purchase the product when exposed to advertisements presenting utilitarian attributes, than when exposed to such advertisements presenting hedonic attributes. These results conceptually support findings by Chernev (2004), who examined the compatibility between goals and product attributes when making consumer choices.

For example, Chernev (2004) found that an individual is inclined to choose products with features consistent with his or her goal orientation. This study suggests that promotion-focused
individuals, who tend to approach pleasure, are more likely to be persuaded by advertisements emphasizing hedonic attributes than those highlighting utilitarian attributes, whereas prevention-focused participants, who tend to avoid negative outcomes, are more inclined to be persuaded by advertisements highlighting utilitarian attributes than those emphasizing hedonic attributes. Therefore, consistent with Chernev’s (2004) perspective, persuasion effect is a function of the compatibility between consumers’ goal orientation and product attributes. When product attributes are compatible with one’s regulatory goal, persuasion effects would be more likely to increase.

**Effect of Regulatory Fit**

Findings revealed that promotion-focused individuals had stronger attitudes toward brand and the advertisement when exposed to advertisements presenting hedonic attributes in a gain frame than when exposed to those in a loss frame. On the other hand, prevention-focused individuals had stronger attitudes toward brand and the advertisement when exposed to advertisements presenting utilitarian attributes in a loss frame than when exposed to those in a gain frame. Based on the value-from-fit model (Higgins, 2000), when the strategic manner of individuals’ goal pursuit is consistent with their goal orientation, they will experience regulatory fit, and thus have more favorable attitudes toward the brand and advertisement.

Consistent with the regulatory fit principle, promotion-focused individuals are inclined to achieve positive outcomes. They strive to approach their ideals and aspirations. Therefore, they pursue their goals with eager means and are sensitive to the results of gains and nongains. On the contrary, prevention-focused individuals are inclined to avoid negative outcomes. They strive to fulfill their duties and obligations. Therefore, they approach their goals with vigilance means and
are sensitive to the results of losses and nonlosses. Furthermore, *eagerness means* emphasizes the pursuit of gains more than the avoidance of nongains. *Vigilance means* focuses the avoidance of losses more than the pursuit of nonlosses (Indson, Liberman, & Higgins, 2000). Thus, approach strategies toward gains fit better with promotion-focused individuals than do avoidance strategies against nongains. Conversely, avoidance strategies against losses fit better with prevention-focused individuals than do approach strategies toward nonlosses (Indson et al., 2000). Moreover, regulatory fit effects on persuasion occur when individuals use strategies that fit their goal orientation, thus leading them to be more susceptible to message influence (Wang & Lee, 2006, p. 29). This research advances the notion that brand attitude and attitude toward the advertisement are a function of the regulatory fit of one’s self-regulatory focus with advertisements framing product attributes as gains or losses. Therefore, using regulatory fit as a measure will be useful to examine message effects.

Based on the results for the shampoo advertisement, although a significant three-way interaction of self-regulatory focus, product attributes, and message framing on evaluations of brand and advertisement surfaced, there was no significant three-way interaction on purchase intention. One possible explanation could be that participants may have strong loyalties for certain brands. Thus, even though favorable attitudes toward other brands and the advertisements were easily induced, their purchase intention may not have been affected. In addition, these results show a significant three-way interaction on message effects for the backpack advertisements. One possible reason is that the design and wording of the backpack advertisements may not successfully draw participants’ attention and thus, participants did not have more favorable attitudes toward both the backpack and the advertisement itself. Therefore, findings provide partial support for H2 when product attributes are emphasized in a gain or loss...
frame that is compatible with one’s self-regulatory focus, greater persuasion effects will be induced. In sum, findings support the notion that regulatory fit facilitates stronger brand attitudes and attitudes toward advertisements.

**Effect of Regulatory Fit on Perceptions of Product Value**

Finding that the compatibility between product attributes framed in advertisements and one’s self-regulatory focus do not elicit greater perceived value of the product discounts the hypothesis. A non-significant Self-regulatory Focus x Product Attributes x Message Framing interaction on perceptions of a product’s value could be confounded by the nature of the product. In this case, shampoo and a backpack are daily necessities of college students. Therefore, regardless of one’s self-regulatory focus, the attributes attached to the product, or the frame of the message, the perceived worth of something “common” will not vary. For example, students may not be likely to place greater value on a product that they buy on a regular basis. Furthermore, their predisposed perceptions of a product’s cost (e.g., their favorite shampoo is $3.50) may impede their ability to view or accept alternative values of a product.

Although a significant three-way interaction was not found, patterns were consistent with the hypothesis. Promotion-focused participants had greater perceived value of the product when exposed to advertisements presenting hedonic attributes in a gain frame than when exposed to advertisements presenting utilitarian attributes in a loss frame. The reverse was true for prevention-focused participants. In addition, a significant Self-regulatory Focus x Product Attributes interaction on perceptions of a product’s value surfaced. Implications for this finding showed that promotion-focused participants reported higher perceived value of the product when exposed to advertisements highlighting hedonic attributes than when exposed to those presenting
utilitarian attributes. On the other hand, prevention-focused participants reported higher perceived value of the product when exposed to advertisements highlighting utilitarian attributes than when exposed to those presenting hedonic attributes. This can be explained by the notion that promotion-focused individuals are more inclined to place more weight on hedonic features than utilitarian features, whereas the reverse is true for prevention-focused individuals (Chernev, 2004). Moreover, based on Higgins’ (2000) value-from-fit model, when people experience fit, they tend to assign a higher monetary value to that selected product.

**Effect of Regulatory Fit on Information Processing**

Support for the hypothesis revealed that when promotion-focused individuals were exposed to advertisements presenting hedonic attributes in a gain frame, they are more likely to engaging in heuristic processing than when exposed to advertisements presenting utilitarian attributes in a loss frame. On the other hand, when prevention-focused individuals were exposed to advertisements presenting utilitarian attributes in a loss frame, they are more likely to engage in systematic processing than when exposed to advertisements presenting hedonic attributes in a gain frame. An explanation of this result is that promotion-focused individuals have a greater tendency to make evaluations based on simple inferences and peripheral cues (e.g., appearance, source or positive ones and wording) from the information provided and to rely on subjective affective responses to a message than prevention-focused individuals. Furthermore, people are commonly accustomed to obtaining information framed in positive (gain) terms, rather than negative (loss) terms (Meyrowitz & Chaiken, 1987), especially for promotion-focused individuals who tend to approach a positive outcome (e.g., gain) and pleasure (Higgins, 1997; Higgins et al., 2001). Therefore, when promotion-focused individuals are exposed to
advertisements framing hedonic attributes as gains, heuristic processing will be more likely to be induced than when exposed to those framing utilitarian attributes as losses.

Conversely, prevention-focused individuals are more likely to process messages in detail and rely on the substance of a message (e.g., strength of argument) than promotion-focused individuals (Pham & Avnet, 2004). Furthermore, negative messages are in nature in opposition to one’s own thoughts. Negative messages tend to be processed more thoroughly than positive messages, and more easily prompt systematic processing (Maheswaran & Meyers-Levy 1990; Smith & Petty, 1996). Therefore, when prevention-focused individuals are exposed to advertisements framing utilitarian attributes as losses, systematic processing will be more likely to be induced than when exposed to those framing hedonic attributes as gains.

Effect of Regulatory Fit on Processing Fluency

This study also hypothesized that when product attributes emphasized in a gain or loss frame are compatible with one’s self-regulatory focus, more fluent processing will occur. Results showed that people found advertisements which fit their regulatory orientation easier to process than those which do not fit their regulatory orientation. Findings conceptually support Lee and Aaker’s (2004) research, high levels of fit could facilitate more fluent processing. Moreover, results provide evidence that processing fluency underlies regulatory focus and persuasion. Therefore, complete fit leads to more fluent processing of the advertisements and thus, message effects will be greater. These findings can be explained by the notion that when a message is compatible with an individuals’ regulatory orientation, the message confirms what people naturally think. People will “feel right” and thus, they process the message more fluently when compatibility exists than when it does not exist. Furthermore, processing fluency can lead to
more favorable attitudes (Lee & Aaker, 2004), explaining why processing fluency mediates the fit effect on message effects. Taking into account these findings, several implications arise. This research not only advances the understanding of persuasive theories in advertising, but also provides important marketing implications to design effective strategies for marketing practitioners. Theoretical and practical implications are discussed in the following sections.

Theoretical and Practical Implications

Prior research has examined relationships between self-regulation and the evaluation of product attributes (e.g., Chernev, 2004), as well as relationships between self-regulation and message framing (e.g., Lee & Aaker, 2004). However, minimal attention has been given to examining the impact of fit between hedonic or utilitarian product attributes framed as gains and losses and individuals’ regulatory focus on message effects. Therefore, extending prior message-framing research by incorporating the notion of fit with persuasion, information processing, and processing fluency could invaluably provide a more comprehensive theoretical contribution to explain message effects in mass communication. Previous research shows that a message is more persuasive when the content of the message fits an individual’s regulatory focus (e.g., Aaker & Lee, 2004; Cesario et al., 2004). These results are further supported by the present study which explores how regulatory focus moderates product attributes and message framing on persuasion, and whether processing fluency mediates message framing effects on persuasion.

The findings suggest that when product attributes highlighted in advertisements are compatible with one’s self-regulatory focus, greater persuasion effects and more fluent processing will be induced; when product attributes are presented in a gain or loss frame that is compatible with one’s self-regulatory focus, stronger brand attitude and attitude toward the advertisement occurs. In addition, findings showed that processing fluency mediates regulatory
fit on persuasion.

Therefore, the current research contributes to message framing and regulatory focus literature on two fronts. First, this study extends prior findings by demonstrating the impact of fit on persuasion effects. Such findings can provide a deeper understanding of the causes and consequences of framing. Second, the results highlight the important moderating role of self-regulatory focus and mediating role of processing fluency on the message-framing effects. In the study of advertising effects, it is integral to take into consideration these concepts. They are major factors that cause variation in persuasion and can help explain the variance of the effect of persuasion.

This research also has practical implications. Different descriptions of the same stimulus can represent different contexts, thus leading to different preferences. Hence, the ways in which advertisements are presented, either gain frames or loss frames, play a critical role in persuasion. This research examined some ways to increase advertising effects and found that the way a message is framed can significantly influence consumers’ brand attitude, attitude toward the advertisement, and purchase intention. In other words, the practical implication of this study serves to enhance persuasion effects by framing product attributes as gains or losses in accordance with the self-regulatory focus of target consumers. Using product attributes, framed as gains or losses, can be an effective strategy to entice potential customers.

Fit among self-regulatory focus, message framing, and product attributes can be used as a guide for advertisers to enhance persuasion effects. Characteristics of consumers are so diverse, it is difficult for one version of an advertisement to attract all target consumers. Using self-regulatory focus is another way to efficiently segment the market, because understanding individual differences between promotion and prevention orientations could further aid
advertisers to devise and employ efficient strategies of regulatory fit to heighten persuasion. In such a case, assessing the target consumers’ regulatory orientation is necessary prior to designing the advertisement. If a market has a reasonable budget to design several advertisements to promote the same products, it may be wise to develop a variety of formats to target more specialized consumers. For example, if most target consumers are promotion-focused, advertisements with hedonic attributes of products framed as gains would be particularly more persuasive. Conversely, if most target consumers are prevention-focused, advertisements with utilitarian attributes of products framed as losses would elicit greater persuasion. Hence, the findings are invaluable in providing advertisers with the criteria for more effective advertising strategies, based on the principle of regulatory fit.

Limitations and Directions for Future Research

Although this study provides theoretical and practical implications, some limitations need to be addressed. First, the experimental design used only two products — shampoo and a backpack. Although this approach enabled the hypotheses to be tested, it is important for future studies to explore other types of products. Second, the stimuli used in this study were for experimental purposes and were not professional advertisements as seen in magazines. Therefore, the semi-professional look of the advertisements could have confounded the results. Third, individual’s regulator focus was manipulated by asking students to list their ideals and oughts and complete a paper-and-pencil maze. In addition, in this study, product attributes in the advertisements were manipulated as hedonic and utilitarian attributes. It is possible that the hedonic and utilitarian attributes alone may also prime participants’ goals. Fourth, external validity issues arise because the sample consisted only of college students. Although using a convenience sample of college students was more financially feasible than taking simple random
samples from the overall population, it is important to note that the sample is not representative. A more representative sample could improve the generalizability of findings. In addition, there was no manipulation check of self-regulatory focus to determine whether the induced self-regulatory focus was actually a promotion-focused or prevention-focused orientation. In this study, priming ideals/oughts and a paper-and-pencil maze were used as manipulations of self-regulatory focus. Although other researchers (e.g., Chernev 2004; Friedman & Föster, 2001) have applied these manipulations in prior studies, no measure was implemented to check whether self-regulatory focus was indeed manipulated.

Future research in this area could take a number of avenues. First, there are a number of possible moderators and mediators that could be considered in predicting message framing effects (e.g., NFC or message-response involvement). Second, regulatory fit on persuasion effects may differ across media (e.g., print, broadcast, digital, etc.). The medium through which advertisements are transmitted could play an integral role on persuasion, since information processing could be influenced by features, such as modality. Finally, future studies can take into consideration whether cultural differences exist in the perceptions of advertisements. For example, can individual characteristics and persuasion effect vary between individuals from Western and Eastern countries? Researchers have found that individuals from different cultures have different self-regulatory orientations. People from individualist cultures (e.g., North America) tend to have promotion-focused characteristics, whereas individuals from collectivist cultures, (e.g., Middle East and East Asia) are more likely to exhibit prevention-focused characteristics (Lee et al., 2000; Pham & Avnet, 2004). Such findings provide practical implication for global marketers, for they can implement effective message framing strategies to produce a variety of advertisements aimed at consumers of different cultures.
References


Block, L. G., & Keller, P. A. (1995). When to accentuate the negative: The effects of perceived
efficacy and message framing on intentions to perform a health-related behavior. *Journal of Marketing Research*, 32, 192–204.


Appendix A: Figures

Figure 1: The Framework of the Research

Processing fluency

Message framing: hedonic attributes in a grain frame

Greater persuasive effect

Heuristic Processing occur

Message framing: utilitarian attributes in a loss frame

Greater persuasive effect

Systematic Processing occur

Self regulatory focus

Promotion

Prevention

Processing fluency
Figure 2: Psychological Variables with Distinct Relations to Promotions and Prevention Focus

- **Promotion Focus**
  - Nurturance Need
  - Strong Ideals
  - Gain-Non-Gain Situations
  - Sensitivity to Presence or Absence of Positive Outcomes
  - Approach as Strategic Means
  - Insure Hits and Insure Against Errors of Omission
  - Cheerfulness-Dejection Emotion

- **Prevention Focus**
  - Security Need
  - Strong Oughts
  - Non-Loss-Loss Situations
  - Sensitivity to Absence or Presence of Negative Outcomes
  - Avoidance as Strategic Means
  - Insure Correct Rejections and Insure Against Errors of Commission
  - Quiescence-Agitation Emotion

Figure 3: The Procedure of Main Experimental Design

Step 1: **Promotion Condition**
List childhood/current hopes and aspirations

Step 2: **Promotion Condition**
Play a pencil-and-paper maze with a cheese

Step 3: **Promotion Condition**
Read advertisements, and fill out questions, manipulation check of ads and demographic information

Step 1: **Prevention Condition**
List childhood/current duties and obligations

Step 2: **Prevention Condition**
Play a pencil-and-paper maze with an owl

Step 3: **Prevention Condition**
Read advertisements, and fill out questions, manipulation check of ads and demographic information
Figure 4: Interaction between Self-regulatory Focus and Product Attributes on Brand Attitude

(Shampoo Ads)
Figure 5: Interaction between Self-regulatory Focus and Product Attributes on Attitude toward the Advertisement (Shampoo Ads)
Figure 6: Interaction between Self-regulatory Focus and Product Attributes on Purchase Intention (Shampoo Ads)
Figure 7: Interaction between Self-regulatory Focus and Product Attributes on Brand Attitude

(Backpack Ads)
Figure 8: Interaction between Self-regulatory Focus and Product Attributes on Attitude toward the Advertisements (Backpack Advertisements)
Figure 9: Interaction between Self-regulatory Focus and Product Attributes on Purchase Intention (Backpack Ads)
Figure 10a: Interaction between Product Attributes and Message Framing on Brand Attitude among Promotion-focus Individuals (Shampoo Ads)

Figure 10b: Interaction between Product Attributes and Message Framing on Brand attitude among Prevention-focus Individuals (Shampoo Ads)
Figure 11a: Interaction between Product Attributes and Message Framing on Attitude toward the Advertisements among Promotion-Focus Individuals (Shampoo Ads)

Figure 11b: Interaction between Product Attributes and Message Framing on Attitude toward the Advertisements among Prevention-Focus Individuals (Shampoo Ads)
Figure 12: Processing Fluency as a mediator between Fit and Message Effects (Shampoo Ads)

Note. BA refers to brand attitude; Aad refers to attitude toward the advertisement; PI refers to purchase intention. Numbers in parentheses are beta values after the mediating variable is entered into equation.

** $p<.01$
*** $p<.001$
Figure 13: Processing Fluency as a mediator between Fit and Message Effects (Backpack Ads)

BA: $\beta=0.46^{***}$
Aad: $\beta=0.46^{***}$
PI: $\beta=0.46^{***}$

BA: $\beta=0.30^{**} (.07)$
Aad: $\beta=0.46^{***} (.05)$
PI: $\beta=0.24^{*} (.09)$

Note. BA refers to brand attitude; Aad refers to attitude toward the advertisement; PI refers to purchase intention.
Numbers in parentheses are beta values after the mediating variable is entered into equation.
* $p<.05$
** $p<.01$
*** $p<.001$
Appendix B: Tables

Table 1: Summary of Regulatory Forms as a Function of Valence of End State as Reference Point and Direction of Means

<table>
<thead>
<tr>
<th>Valence of end state as reference point</th>
<th>Direction of means</th>
<th>Desired (discrepancy reducing)</th>
<th>Undesired (discrepancy amplifying)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approach</td>
<td>Approaching matches to desired end states</td>
<td>Approaching mis-matches to undesired end states</td>
</tr>
<tr>
<td></td>
<td>Avoidance</td>
<td>Avoiding mis-matches to desired end states</td>
<td>Avoiding matches to undesired end states</td>
</tr>
</tbody>
</table>

Table 2: Hedonic and Utilitarian Attributes Determined from the Pretest

<table>
<thead>
<tr>
<th>Product</th>
<th>Hedonic Attributes</th>
<th>Utilitarian Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shampoo</td>
<td>Thick</td>
<td>Clean</td>
</tr>
<tr>
<td></td>
<td>Shinny</td>
<td>Healthy</td>
</tr>
<tr>
<td></td>
<td>Attractive</td>
<td>Strong</td>
</tr>
<tr>
<td></td>
<td>Smell great</td>
<td>Manageable</td>
</tr>
<tr>
<td>Backpack</td>
<td>Fashion</td>
<td>Comfortable</td>
</tr>
<tr>
<td></td>
<td>Attractive</td>
<td>Durable</td>
</tr>
<tr>
<td></td>
<td>Stylish</td>
<td>Functional</td>
</tr>
<tr>
<td></td>
<td>Cool</td>
<td>Organized</td>
</tr>
<tr>
<td>Toothpaste</td>
<td>White Teeth</td>
<td>Make gums healthy</td>
</tr>
<tr>
<td></td>
<td>Fresh Breath</td>
<td>Make teeth clean</td>
</tr>
</tbody>
</table>
Table 3: Manipulation Check on the Perceived Emphasis of Hedonic and Utilitarian Ads

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ad with Hedonic Attributes:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shampoo</td>
<td>39</td>
<td>5.05</td>
<td>1.61</td>
<td>8.62*</td>
</tr>
<tr>
<td>Hedonic Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilitarian Emphasis</td>
<td>39</td>
<td>2.28</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Backpack</td>
<td>39</td>
<td>5.90</td>
<td>1.21</td>
<td>10.43*</td>
</tr>
<tr>
<td>Hedonic Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilitarian Emphasis</td>
<td>39</td>
<td>1.87</td>
<td>1.38</td>
<td></td>
</tr>
<tr>
<td>Toothpaste</td>
<td>39</td>
<td>3.44</td>
<td>2.05</td>
<td>5.6*</td>
</tr>
<tr>
<td>Hedonic Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilitarian Emphasis</td>
<td>39</td>
<td>1.59</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td><strong>Ad with Utilitarian Attributes:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shampoo</td>
<td>39</td>
<td>5.72</td>
<td>1.61</td>
<td>8.62*</td>
</tr>
<tr>
<td>Utilitarian Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedonic Emphasis</td>
<td>39</td>
<td>2.95</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Backpack</td>
<td>39</td>
<td>6.13</td>
<td>1.21</td>
<td>10.43*</td>
</tr>
<tr>
<td>Utilitarian Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedonic Emphasis</td>
<td>39</td>
<td>2.10</td>
<td>1.38</td>
<td></td>
</tr>
<tr>
<td>Toothpaste</td>
<td>39</td>
<td>6.41</td>
<td>2.05</td>
<td>5.6*</td>
</tr>
<tr>
<td>Utilitarian Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedonic Emphasis</td>
<td>39</td>
<td>4.56</td>
<td>.88</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $p=.001$
Table 4: Manipulation Check on the Perceived Emphasis of Gain and Loss Framing Ads

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ads with Gain Frames:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shampoo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain Emphasis</td>
<td>19</td>
<td>5.82</td>
<td>.89</td>
<td>9.39*</td>
</tr>
<tr>
<td>Loss Emphasis</td>
<td>19</td>
<td>2.26</td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>Backpack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain Emphasis</td>
<td>20</td>
<td>6.00</td>
<td>.79</td>
<td>10.66**</td>
</tr>
<tr>
<td>Loss Emphasis</td>
<td>20</td>
<td>2.35</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>Toothpaste</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain Emphasis</td>
<td>19</td>
<td>5.79</td>
<td>.80</td>
<td>7.98**</td>
</tr>
<tr>
<td>Loss Emphasis</td>
<td>19</td>
<td>2.50</td>
<td>1.42</td>
<td></td>
</tr>
<tr>
<td><strong>Ads with Loss Frames:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shampoo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Emphasis</td>
<td>20</td>
<td>5.50</td>
<td>1.03</td>
<td>3.84*</td>
</tr>
<tr>
<td>Gain Emphasis</td>
<td>20</td>
<td>3.55</td>
<td>1.68</td>
<td></td>
</tr>
<tr>
<td>Backpack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Emphasis</td>
<td>19</td>
<td>5.50</td>
<td>1.42</td>
<td>3.30*</td>
</tr>
<tr>
<td>Gain Emphasis</td>
<td>19</td>
<td>3.39</td>
<td>1.63</td>
<td></td>
</tr>
<tr>
<td>Toothpaste</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Emphasis</td>
<td>20</td>
<td>5.78</td>
<td>.92</td>
<td>4.38**</td>
</tr>
<tr>
<td>Gain Emphasis</td>
<td>20</td>
<td>3.68</td>
<td>1.78</td>
<td></td>
</tr>
</tbody>
</table>

*Note.*  
* p = .01  
** p = .001
<table>
<thead>
<tr>
<th></th>
<th>Promotion</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hedonic</td>
<td>Utilitarian</td>
</tr>
<tr>
<td>Gain</td>
<td>Condition 1</td>
<td>Condition 3</td>
</tr>
<tr>
<td></td>
<td>N=29</td>
<td>N=25</td>
</tr>
<tr>
<td></td>
<td>Condition 5</td>
<td>Condition 7</td>
</tr>
<tr>
<td></td>
<td>N=26</td>
<td>N=28</td>
</tr>
<tr>
<td></td>
<td>N=22</td>
<td>N=26</td>
</tr>
<tr>
<td></td>
<td>N=26</td>
<td>N=26</td>
</tr>
<tr>
<td></td>
<td>N=29</td>
<td></td>
</tr>
<tr>
<td>Loss</td>
<td>Condition 2</td>
<td>Condition 4</td>
</tr>
<tr>
<td></td>
<td>Condition 6</td>
<td>Condition 8</td>
</tr>
<tr>
<td></td>
<td>N=26</td>
<td>N=29</td>
</tr>
</tbody>
</table>
Table 6: Means and Standard Deviations for Brand Attitude, Attitude toward the advertisement, and Purchase Intention

<table>
<thead>
<tr>
<th></th>
<th>Promotion</th>
<th></th>
<th>Prevention</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hedonic</td>
<td>Utilitarian</td>
<td>Hedonic</td>
<td>Utilitarian</td>
</tr>
<tr>
<td></td>
<td>Gain</td>
<td>Loss</td>
<td>Gain</td>
<td>Loss</td>
</tr>
<tr>
<td><strong>Shampoo</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Attitude</td>
<td>5.10</td>
<td>3.76</td>
<td>3.65</td>
<td>4.27</td>
</tr>
<tr>
<td></td>
<td>(1.24)</td>
<td>(1.07)</td>
<td>(1.44)</td>
<td>(1.39)</td>
</tr>
<tr>
<td>Attitude toward the Ad</td>
<td>4.16</td>
<td>2.99</td>
<td>3.58</td>
<td>2.21</td>
</tr>
<tr>
<td></td>
<td>(1.43)</td>
<td>(1.29)</td>
<td>(1.14)</td>
<td>(.89)</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>3.47</td>
<td>2.34</td>
<td>2.26</td>
<td>2.04</td>
</tr>
<tr>
<td></td>
<td>(1.61)</td>
<td>(1.53)</td>
<td>(1.48)</td>
<td>(1.47)</td>
</tr>
<tr>
<td><strong>Backpack</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Attitude</td>
<td>5.09</td>
<td>3.49</td>
<td>4.27</td>
<td>3.99</td>
</tr>
<tr>
<td></td>
<td>(1.33)</td>
<td>(1.13)</td>
<td>(1.25)</td>
<td>(1.62)</td>
</tr>
<tr>
<td>Attitude toward the Ad</td>
<td>3.95</td>
<td>3.03</td>
<td>3.37</td>
<td>3.05</td>
</tr>
<tr>
<td></td>
<td>(1.76)</td>
<td>(1.05)</td>
<td>(1.26)</td>
<td>(1.37)</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>2.83</td>
<td>1.96</td>
<td>2.18</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>(1.60)</td>
<td>(1.08)</td>
<td>(1.12)</td>
<td>(1.34)</td>
</tr>
</tbody>
</table>

*Note. Number without parentheses refers to means; Number with parentheses refers to Standard Deviations*
Table 7: Correlations among Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shampoo Ad:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Brand Attitude</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Attitude toward Ad</td>
<td>.49***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Purchase Intention</td>
<td>.55***</td>
<td>.60***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Heuristic Thoughts</td>
<td>.18**</td>
<td>.15*</td>
<td>.09</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Systematic Thoughts</td>
<td>-.03</td>
<td>-.04</td>
<td>-.00</td>
<td>-.30***</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>6. Processing Fluency</td>
<td>.42***</td>
<td>.46***</td>
<td>.35***</td>
<td>.08</td>
<td>-.02</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Backpack Ad:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Brand Attitude</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Attitude toward Ad</td>
<td>.62***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Purchase Intention</td>
<td>.53***</td>
<td>.61**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Heuristic Thoughts</td>
<td>.20***</td>
<td>.13</td>
<td>.03</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Systematic Thoughts</td>
<td>-.10</td>
<td>-.08</td>
<td>.00</td>
<td>-.34***</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>6. Processing Fluency</td>
<td>.49***</td>
<td>.41***</td>
<td>.03***</td>
<td>.16*</td>
<td>-.10</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Note.* *P* < .05  
** *P* < .01  
*** *P* < .001
Table 8: Multivariate and Univariate F-values for the Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>MANOVA</th>
<th>Brand Attitude</th>
<th>Attitude toward the Ad</th>
<th>Purchase Intention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shampoo Ads:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self regulatory (A)</td>
<td>4.98**</td>
<td>12.78***</td>
<td>1.53</td>
<td>11.77**</td>
</tr>
<tr>
<td>Product attributes (B)</td>
<td>2.05</td>
<td>.38</td>
<td>3.17</td>
<td>.77</td>
</tr>
<tr>
<td>Message framing (C)</td>
<td>4.89**</td>
<td>.12</td>
<td>11.77**</td>
<td>.74</td>
</tr>
<tr>
<td>A x B</td>
<td>4.58**</td>
<td>10.34**</td>
<td>5.33**</td>
<td>10.18**</td>
</tr>
<tr>
<td>A x C</td>
<td>6.14**</td>
<td>2.83</td>
<td>17.95***</td>
<td>7.68**</td>
</tr>
<tr>
<td>B x C</td>
<td>4.66**</td>
<td>11.47**</td>
<td>1.98</td>
<td>7.82**</td>
</tr>
<tr>
<td>A x B x C</td>
<td>5.43**</td>
<td>4.20*</td>
<td>4.07*</td>
<td>.13</td>
</tr>
<tr>
<td><strong>Backpack Ads:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self regulatory (A)</td>
<td>2.41</td>
<td>5.23*</td>
<td>.20</td>
<td>.00</td>
</tr>
<tr>
<td>Product attributes (B)</td>
<td>1.21</td>
<td>1.35</td>
<td>.35</td>
<td>2.99</td>
</tr>
<tr>
<td>Message framing (C)</td>
<td>2.52</td>
<td>4.77*</td>
<td>5.63*</td>
<td>.59</td>
</tr>
<tr>
<td>A x B</td>
<td>2.26</td>
<td>3.93*</td>
<td>4.22*</td>
<td>5.88*</td>
</tr>
<tr>
<td>A x C</td>
<td>2.54</td>
<td>6.83*</td>
<td>.69</td>
<td>1.33</td>
</tr>
<tr>
<td>B x C</td>
<td>2.56</td>
<td>5.57*</td>
<td>5.02*</td>
<td>5.70*</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1.37</td>
<td>1.03</td>
<td>.50</td>
<td>.19</td>
</tr>
</tbody>
</table>

*Note. MANOVA d.f. = 3/201, univariate d.f. = 1/203
* p<.05
** p<.01
*** p<.00
Table 9: Univariate F-values for the Dependent Variables

<table>
<thead>
<tr>
<th>Source</th>
<th>Perceived value of the product</th>
<th>Heuristic processing</th>
<th>Systematic Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shampoo</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self regulatory (A)</td>
<td>1.74</td>
<td>5.11*</td>
<td>32.07***</td>
</tr>
<tr>
<td>Product attributes (B)</td>
<td>.24</td>
<td>1.02</td>
<td>1.31</td>
</tr>
<tr>
<td>Message framing (C)</td>
<td>.06</td>
<td>41.95***</td>
<td>31.45***</td>
</tr>
<tr>
<td>A x B</td>
<td>6.95**</td>
<td>.45</td>
<td>.54</td>
</tr>
<tr>
<td>A x C</td>
<td>17.01***</td>
<td>2.81</td>
<td>.27</td>
</tr>
<tr>
<td>B x C</td>
<td>.92</td>
<td>.18</td>
<td>6.42*</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1.33</td>
<td>9.70**</td>
<td>4.01*</td>
</tr>
<tr>
<td><strong>Backpack</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self regulatory (A)</td>
<td>1.14</td>
<td>8.03**</td>
<td>10.40**</td>
</tr>
<tr>
<td>Product attributes (B)</td>
<td>3.74</td>
<td>7.03**</td>
<td>28.99***</td>
</tr>
<tr>
<td>Message framing (C)</td>
<td>.16</td>
<td>78.55***</td>
<td>35.76***</td>
</tr>
<tr>
<td>A x B</td>
<td>4.55*</td>
<td>2.86</td>
<td>6.03*</td>
</tr>
<tr>
<td>A x C</td>
<td>3.29</td>
<td>7.13**</td>
<td>3.08</td>
</tr>
<tr>
<td>B x C</td>
<td>4.82*</td>
<td>3.56</td>
<td>.89</td>
</tr>
<tr>
<td>A x B x C</td>
<td>.92</td>
<td>16.71***</td>
<td>4.09*</td>
</tr>
</tbody>
</table>

*Note.* Univariate d.f. for perceived value of the product, heuristic processing, and systematic processing = 1/203
* p<.05.
** p<.01
*** p<.001
Appendix C: 8 Ads of Manipulation of Attributes Presented in Message Framing

Shampoo: Hedonic Attributes Presented in a Gain Frame

Take a Chance on Having Thick and Shinny Hair

Want attractive hair?
Try K&L shampoo.
Using this unique multi-vitamin formula, your hair will be silky.
Have the opportunity to add volume to your hair.
This natural aromatic shampoo leaves your hair smelling great.
With K&L, your hair will look shinny and thick.

K&L...a hair necessity!
1-800-561-5152
www.kl.com
Don’t Get Flat and Dull Hair

Tired of unattractive hair? Try K&L shampoo.
By not using this unique multi-vitamin formula, your hair may be dry.
Don’t miss out on an opportunity to lift limp hair.
Shampoos with no natural aroma won’t get rid of that bad smell.
Without K&L, your hair may look dull and flat.

K&L...a hair necessity!
1-800-561-5152
www.kl.com
Take a Chance on Having Clean and Healthy Hair

Want healthier hair? Try K&L shampoo.
Using this cleaning formula will leave your scalp feeling fresh.
Have the opportunity to maintain your natural hair proteins.
Its all natural proteins make your hair healthy.
With K&L, your hair will be strong and manageable.

K&L...a hair necessity!
1-800-561-5152
www.kl.com
Shampoo: Utilitarian Attributes Presented in a Loss Frame

Don’t Get Dandruff and Unhealthy Hair

Tired of unhealthy hair?
Try K&L shampoo.
By not using this cleaning formula,
your hair may have excess buildup.
Don’t miss out on an opportunity to restore
your natural hair proteins.
Shampoos with no natural proteins
make your hair unhealthy.
Without K&L,
your hair may have split ends and unwanted kinks.

K&L...a hair necessity!

1-800-561-5152
www.kl.com
Stay One Step Ahead of Fashion

Want a cool-looking backpack?
Try Ultimate backpack.
Using this backpack with assorted colors and prints
will fit whatever you wear.
Have the opportunity to own a backpack
on the front line of style this year.
Backpacks with attractive and stylish accessories
put you right in the fashion trend.
With Ultimate, you will feel cool.

Carry Ultimate with you!

1-800-ultimate
Don’t be Left behind by Fashion

Tired of having a boring backpack?
Try Ultimate backpack.
By not using this backpack with assorted colors and prints,
you may have no sense of style.
Don’t miss out on an opportunity to own a backpack
that won’t be on the backburner of style this year.
Backpacks lacking attractive and stylish accessories
will keep you in a fashion rut.
Without Ultimate, you may feel uncool.

Carry Ultimate with you!
1-800-ultimate
Gain Comfort with a Durable Backpack

Want a functional backpack? Try Ultimate backpack. Using this backpack with side pockets for cell phones and water bottles helps you organize your belongings. Have the opportunity to own a backpack with zippered-up tops which protects your stuff. Backpacks with padded and adjustable shoulder straps will leave our back and shoulders feeling comfortable. With Ultimate, your life becomes organized.

Carry Ultimate with you!

1-800-ultimate
Don’t Get Back Pains from a Flimsy Backpack

Tired of a dysfunctional backpack? Try Ultimate backpack.
Not using this backpack with side pockets for cell phones and water bottles will leave your belongings messy.
Don’t miss out on an opportunity to own a backpack with zippered-up tops to avoid losing your stuff.
Backpacks lacking padded and adjustable shoulder straps will leave your back and shoulders feeling pain. Without Ultimate, your life may become a mess.

Carry Ultimate with you!

1-800-ultimate
Appendix D: Pretest II Questionnaire

General Instructions

This research study asks about your perceptions of products in the marketplace. This questionnaire is comprised of two parts. The study will take about 15 minutes to complete.

~Thank you for your participation in this study~
Part I

**Instruction:**

In this section, you will read a series of product advertisements. For each, you will be asked several questions related to the advertisement. Please read the advertisements at your normal pace.
Instruction:

Please read all questions carefully and answer them to the best of your ability. Before answering this question, please refer to the following definitions describing the product.

**Hedonic attributes** refer to characteristics that emphasize aspects of pleasure, fantasy, or fun.

**Utilitarian attributes** refer to characteristics that emphasize practical, instrumental and functional features.

| 4. The attributes highlighted in the ad, which you have just read, are mostly: | Utilitarian ←--------------------------------→ Hedonic |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

5. Please indicate your level of agreement with each statement.

| Strongly Disagree ←--------------------------------→ Strongly agree |
|---|---|---|---|---|---|---|
| 5a: The ad emphasizes the advantages by using the advertised product. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5b. The ad emphasized the disadvantages by not using the advertised product. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

PLEASE PROCEED TO THE NEXT AD BY TURNING THE PAGE.
Part II: Demographics

Please answer the following questions.

6. What is your gender?
   1. Male       2. Female

7. What is your age?________________________

8. How many years have you been in college?

9. What racial or ethnic group best describes you?

10. What is your major?________________________

YOU HAVE COMPLETED THE QUESTIONNAIRE.
THANK YOU FOR YOUR PARTICIPATION!!
Appendix E: Questionnaire

This research will ask you to answer some questions and read some messages. It is comprised of several parts. The study will take about 15 minutes to complete. Please follow the instructions carefully. Don’t go back or forward after you complete a page.

~Thank you for your participation in this study~
Part: I-A

**Instruction:**

We would like you to describe how your current hopes and goals have changed since you grew up.

Please list **up to 8** of your *childhood* hopes and aspirations.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 

Please list **up to 8** of your *current* hopes and aspirations.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
Part I-B

**Instruction:**
Below is a paper-and-pencil maze. There is a piece of cheese placed outside the maze in front of the entryway. The mouse is in the middle. Please draw a path to guide the mouse out of the maze so it can eat the cheese.

END OF PART I.
PLEASE PROCEED TO PART II ON THE NEXT PAGE.
Part: I-A

Instruction:

We would like you to describe how your current duties and obligations have changed when you grew up.

Please list up to 8 of your childhood duties and obligations.

1.

2.

3.

4.

5.

6.

7.

8.

Please list up to 8 of your current duties and obligations.

1.

2.

3.

4.

5.

6.

7.

8.
Part I-B

**Instruction:**

Below is a paper-and-pencil maze. An **owl** is looming over the maze, ready to fly down to catch the mouse. The mouse is in the middle. Please **draw a path** to help the mouse out of the maze and away from the hungry **owl**.

END OF PART I.
PLEASE PROCEED TO PART II ON THE NEXT PAGE.
Part II

Instruction:

In this section, you will read the rough draft of 2 product advertisements. For each, you will be asked several questions related to the advertisements. Please read the advertisements as you normally would--just as when you are reading a magazine.
**Instruction:**

Now, please answer the following questions about the ad. Please read all questions carefully. Your responses will remain completely anonymous and confidential. During the study, stay only within the section/page you are working on and answer all questions in order. **DO NOT** look ahead or go back to previous sections.

**Question 1:** List all thoughts that crossed your mind as you read the ad. Please state your thoughts as concisely as possible. Write each thought on each separate line. A word or phrase is sufficient. There are no right or wrong answers.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
Instruction:

In this section, please answer the following questions about the ad. **PLEASE READ THE QUESTIONS AND SCALES CAREFULLY.**

Question 2: With regards to the ad that you just read, please indicate how easy or difficult it was to process or understand the ad.

\[
\begin{array}{cccccccc}
\text{A} & \text{Difficult to process} & 1 & 2 & 3 & 4 & 5 & 6 & 7 & \text{Easy to process} \\
\text{B} & \text{Difficult to understand} & 1 & 2 & 3 & 4 & 5 & 6 & 7 & \text{Easy to understand}
\end{array}
\]

Question 3: Please indicate the extent to which you perceive the ad to be detailed or not.

\[
\begin{array}{cccccccc}
\text{Not at all detailed} & 1 & 2 & 3 & 4 & 5 & 6 & 7 & \text{Extremely detailed}
\end{array}
\]

Question 4: The following questions ask for your perceptions about the brand in the ad you have just read.

I think the brand advertised is:

\[
\begin{array}{cccccccc}
\text{A} & \text{Negative} & 1 & 2 & 3 & 4 & 5 & 6 & 7 & \text{Positive} \\
\text{B} & \text{Unfavorable} & 1 & 2 & 3 & 4 & 5 & 6 & 7 & \text{Favorable} \\
\text{C} & \text{Bad} & 1 & 2 & 3 & 4 & 5 & 6 & 7 & \text{Good}
\end{array}
\]

Question 5: To what degree do you perceive the ad to be persuasive, convincing, effective, and coherent?

a. The ad is persuasive. 
Not at all \[ \rightarrow \] Very much 
\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]

b. The ad is convincing.
\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]

c. The ad is effective.
\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]

d. The ad is coherent.
\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]

Question 6: What is your purchase intention for this advertised brand?

Not at all \[ \rightarrow \] Very much

a. I would consider buying it soon
\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]

b. I would consider buying it in the future
\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]

Question 7: To buy this brand, how much are you willing to pay? $__________

Question 8: Before answering this question, please refer to the following definition describing the product.

Hedonic attributes refer to characteristics that emphasize aspects of pleasure, fantasy, or fun.
Utilitarian attributes refer to characteristics that emphasize practical, instrumental and functional features.

Utilitarian \[ \rightarrow \] Hedonic

The attributes highlighted in the ad, which you have just read, are mostly:

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7
\end{array}
\]
**Question 11:** Please indicate your level of agreement with each statement.

- Strongly Disagree
- 
- Strongly agree

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The ad emphasizes the advantages by using the advertised product.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. The ad emphasized the disadvantages by not using the advertised product.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PLEASE PROCEED TO THE NEXT AD BY TURNING THE PAGE**
**Instruction:**

In this section, please answer the following questions about the ad. **PLEASE READ THE QUESTIONS AND SCALES CAREFULLY.**

Question 2: With regards to the ad that you just read, please indicate how easy or difficult it was to process or understand the ad.

A Difficulty to process 1 2 3 4 5 6 7 Easy to process
B Difficulty to understand 1 2 3 4 5 6 7 Easy to understand

Question 3: Please indicate the extent to which you perceive the ad to be detailed or not.

Not at all detailed 1 2 3 4 5 6 7 Extremely detailed

Question 4: The following questions ask for your perceptions about the brand in the ad you have just read.

I think the brand advertised is:

A Negative 1 2 3 4 5 6 7 Positive
B Unfavorable 1 2 3 4 5 6 7 Favorable
C Bad 1 2 3 4 5 6 7 Good

Question 5: To what degree do you perceive the ad to be persuasive, convincing, effective, and coherent?

Not at all 1 2 3 4 5 6 7 Very much
a. The ad is persuasive.
b. The ad is convincing.
c. The ad is effective.
d. The ad is coherent.

Question 6: What is your purchase intention for this advertised brand?

Not at all 1 2 3 4 5 6 7 Very much
a. I would consider buying it soon
b. I would consider buying it in the future

Question 7: To buy this brand, how much are you willing to pay? $_________

Question 8: Before answering this question, please refer to the following definition describing the product.

Hedonic attributes refer to characteristics that emphasize aspects of pleasure, fantasy, or fun.
Utilitarian attributes refer to characteristics that emphasize practical, instrumental and functional features.

The attributes highlighted in the ad, which you have just read, are mostly: 1 2 3 4 5 6 7
**Question 11:** Please indicate your level of agreement with each statement.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th></th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. **The ad emphasizes the advantages by using the advertised product.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

b. **The ad emphasized the disadvantages by not using the advertised product.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**END OF PART II.**

**PLEASE PROCEED TO PART III ON THE NEXT PAGE.**
Part: III

Question 12: Please answer the following questions.

Please answer the following questions.

a. What is your gender?
   1. Male 2. Female

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?

b. What is your age?
Appendix F: Instruction for coding open-ended questions:

Step I: Identify units of thoughts

The unit of analysis in this study is a *thought*, regardless if it is grammatically correct or not. Such thoughts consist of sentences, phrases, or words. Responses may vary in terms of how these units are presented. For example, they may be separated by lines.

Step II: Coding each unit of thoughts

Each thought should then be coded in two different dimensions: *type of thought*.

**TYPE OF THOUGHTS**

Each thought should be classified in the following three categories:

- **Message-related thoughts**
  Any thought that has “conveyed explicit reference to” the message shown in the advertisement (Maheswaran & Meyers-Levy, 1990). For example, *This shampoo can make thin hair thicker* and *This backpack can make life easier by making me organized* constitute as message-related thoughts.

- **Simple evaluative thoughts**
  Any thought that is a simple/intuitive inference and represents universal appeal (Maheswaran & Meyers-Levy, 1990; Meyers-Levy & Malaviya, 1999). For example, *It is better than my old shampoo* and *This backpack is good for the outdoors* are characterized as simple evaluative thoughts.

- **Other thoughts**
  Any thought that is not classified as message-related nor simple evaluative thought. For example, *this ad is very informative* constitutes as an other thought.

*Note: The coding scheme for type of thought as defined above are based on categories widely used by Maheswaran and Meyers-Levy (1990); Meyers-Levy and Maheswaran (2004); and Meyers-Levy and Malaviya (1999).*
VITA
Hui-Fei Lin

EDUCATION
M.A. in Communications, Shih Hsin University, Taiwan, 1998-2001
B.A. in Communications Management, Shih Hsin University, Taiwan, 1994-1998

RESEARCH INTERESTS
Psychology of advertising and strategic communications; Regulatory focus and message frames

PRACTICAL EXPERIENCE
Associate Manager, Veda Public Relations Group, Taipei, Taiwan, 12/2002-06/2003 (full-time)
TV Reporter, Eastern Television News Channel, Taipei, Taiwan, 01/2001-11/2002 (full-time)
Assistant Newspaper Reporter, China Times Express, Taipei, Taiwan, 06/1999-09/1999
Production Assistant, UFO Radio Station FM 92.1, Taipei, Taiwan, 01/1996-01/1998 (part-time)

JOURNAL, OTHER PUBLICATIONS AND CONFERNECE