THE INTERACTION BETWEEN CONSUMERS’ COMMUNICATION STYLE AND AROUSAL ON PERSUASION AND VARIETY-SEEKING

BY
SUPATHIDA KULPAVAROPAS

DISSERTATION
Submitted in partial fulfillment of the requirements for the degree of Philosophy in Communications and Media in the Graduate College of the University of Illinois at Urbana-Champaign, 2017

Urbana, Illinois

Doctoral Committee:
Associate Professor Sela Sar, Co-Chair and Co-Director of Research
Professor Patrick T. Vargas, Co-Chair and Co-Director of Research
Professor Michelle R. Nelson
Associate Professor Lulu A. Rodriguez
ABSTRACT

In this dissertation, I explored the interactive and main effects of the three advertising strategies (i.e., repetition-variation in advertising presentation, scarcity messages, and sex appeal) and consumers’ communication style on attitudes, purchase intention, and variety-seeking behavior. The three advertising strategies were expected to affect consumers’ arousal through changes in advertising presentation, product desirability, and psychological responses respectively. The focus is on the situation in which ads for competitive brands of the same product category are displayed. Drawing upon literature on the low-and-high context communication style and the influence of advertising context on elaboration type, the persuasiveness of ads should increase when advertising content and advertising context facilitate consumers’ information processing, which is influenced by their communication style. According to the optimum stimulation level (OSL) theory, consumers adjust their arousal level through variety-seeking behavior. The three advertising strategies, thus, can influence consumers’ variety-seeking via arousal that ads provide. However, the amount of arousal that consumers obtain from ads should vary according to the way they process advertising messages. The differences in arousal level, in turn, influence consumers’ variety-seeking behavior.

Three experimental studies were conducted to examine the propositions mentioned previously. Study 1 examined the influence of repetition-variation in advertising presentation and consumers’ communication style. Study 2 examined the influence of scarcity messages and consumers’ communication style. Study 3 examined the influence of sex appeal and consumers’ communication style. The findings indicated a positive relationship between consumers’ communication style and the effectiveness of ads when all brands were novel to consumers and the ads were repeatedly presented regardless of changes in ad presentation (Study 1). Also, the
persuasiveness of ads in a competitive advertising environment increased as the consumers adopted a higher-context communication style when all brands were new to consumers no matter whether the ads contained scarcity messages or not (Study 2). The relationship between consumers’ communication style and their attitude toward the products and purchase intention disappeared when the brands were familiar to consumers and the ads were presented with sex appeal (Study 3). However, a negative relationship between consumers’ communication style and attitude toward the ads with sex appeal was found.

In terms of variety-seeking, the findings of this dissertation contradict prior studies, which postulate that consumers seek less variety as they obtain greater arousal from the environment. The results revealed a positive relationship between level of arousal and variety-seeking behavior. In addition, when ads were shown repeatedly without variation, consumers were likely to seek greater variety in products as they adopted a higher-context communication style. Moreover, a negative relationship between consumers’ communication style and variety-seeking was reported when the ads were shown irrespective of sex appeal. Overall, this dissertation contributes to a body of knowledge in an advertising field by applying literature on communication style, cognitive processing, and variety-seeking to expand the understanding of consumers’ attitudes and behaviors.
To My Family, My Dissertation Committees, and Champ; without your unwavering love, support, and encouragement, I never could have come this far
ACKNOWLEDGEMENTS

I would like to take this opportunity to express my deepest gratitude for the support I have received over the years from all generous people around me.

First and foremost, I would like to thank Dr. Sela Sar and Dr. Patrick Vargas, my co-advisors for all the time and effort they put into making sure that I am on the right track and compete my dissertation on time. I am indebted for their patience, encouragements, and intellectual inputs. Without their continuous guidance and assistance, it would not have been possible for me to overcome all obstacles in the completion of this dissertation. I am honored to be one of their advisees and simply could not wish for better advisors.

I also owe my gratefulness to my committee members, Dr. Michelle Nelson and Dr. Lulu Rodriguez, for their contributions to this dissertation. Their incomparable knowledge and invaluable feedbacks had made my dissertation well polished. It is a pleasure to thank both of them for their kindness and genuine care. They always listened and gave me sincere advice for both academic and personal matters. They are unquestionably my exemplar of an all-rounder who has work-life balance.

My heartfelt thanks go to Institute of Communications Research (ICR) and Charles H. Sandage Department of Advertising, University of Illinois at Urbana-Champaign including all faculties for granting me an opportunity to learn and grow. Experience that I gained from this place is priceless. I will treasure it for the rest of my life.

Last but not least, words cannot express how much I appreciate having my family and good friends as my superb support system. I would like to give special thanks to my parents, my sister, and uncle Jitt’s family for their unconditional love and support over the years. I also would
like to thank my boyfriend, Wanawut Kaojarern, who perpetually has faith in me even when I doubt myself. His optimism and endless encouragement have assisted me in conquering what seem to be insurmountable impediments in my life. Ph.D. study had been an emotional roller coaster for me, but everything was worth it. It made me realize that I am blessed to have true friendship to be relished for a lifetime. Thank Chip, Joke, Won, Su, Ann, Pujj, Pete, Nita, Regina Ahn, to name but a few for being there for me in both good and bad moments, for supportive conversations, and for everything they have done for me from the bottom of my heart.
# TABLE OF CONTENTS

## CHAPTER 1: INTRODUCTION

Significance of the Study ........................................................................................................... 7

## CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW .................................. 10

- Repetition-Variation in Advertising Presentation ................................................................. 11
- Scarcity Messages .................................................................................................................. 17
- Sex Appeal ............................................................................................................................ 20
- Communication Style ............................................................................................................ 23
- Advertising Context .............................................................................................................. 28
- Variety-Seeking Behavior ...................................................................................................... 30

## CHAPTER 3: RESEARCH STUDIES ......................................................................................... 41

- Study 1: The influence of consumers’ communication style and repetition-variation in advertising presentation on attitudes, purchase intention, and variety-seeking ................................................................. 43
- Study 2: The influence of consumers’ communication style and scarcity messages on attitudes, purchase intention, and variety-seeking ........................................................................................................... 66
- Study 3: The influence of consumers’ communication style and sex appeal on attitudes, purchase intention, and variety-seeking ........................................................................................................... 86

## CHAPTER 4: GENERAL DISCUSSION ................................................................................ 103

- Overview ............................................................................................................................... 103
- The influence of consumers’ communication style and repetition-variation on persuasion and variety-seeking ....................................................................................................................................................... 105
- The influence of consumers’ context communication style and scarcity messages on persuasion and variety-seeking ....................................................................................................................................................... 107
- The influence of consumers’ context communication style and sex appeal on persuasion and variety-seeking ....................................................................................................................................................... 109

- Implications for Academics and Practitioners .................................................................... 111
- Limitations and Future Research Directions ....................................................................... 113

## REFERENCES ...................................................................................................................... 115

## APPENDICES ..................................................................................................................... 138

- Appendix A: Questionnaire used in Study 1 .................................................................. 138
- Appendix B: Questionnaire used in Study 2 .................................................................. 146
- Appendix C: Questionnaire used in Study 3 .................................................................. 154
CHAPTER 1: INTRODUCTION

The goal of this dissertation is to explore the effect of three advertising strategies (i.e., repetition-variation in advertising presentation, the use of scarcity messages, and the use of sex appeal) in a situation in which ads for competitive brands of the same product category are presented. It examines individual differences in communication style that can affect how consumers process advertising messages, which may consequently influence their attitudes, purchase intention, and variety-seeking behavior. Repetition-variation in presentation, scarcity messages, and sex appeal have been employed by advertisers to attract consumers’ attention and to enhance positive attitudes and purchase intention. An optimum stimulation level (OSL) tenet postulates that consumers are amenable to the amount of arousal that they obtain from the environment. Arousal is defined as a generalized state of activation (Feldman, 1996; Zillmann, 1974) and is associated with change, complexity, incongruity, novelty, or uncertainty of stimuli in an environment (Berlyne, 1960). Because ads can be considered environmental stimuli, ads are hypothesized to stimulate consumers through arousal. Based on the definition of arousal, the three advertising strategies are selected on the grounds of their high capability to evoke consumers’ arousal.

The first strategy, the use of repetition-variation in advertising presentation, is anticipated to influence consumers’ arousal through the changes in the ads. Advertisers vary how ads are presented within the same campaign for a certain product (Schumann & Clemons, 1989) mainly to prevent consumers from being tired of overexposure to the repeated ad (Burnkrant & Unnava, 1987; Schumann & Clemons, 1989). For example, for the health benefits of a yogurt campaign,
the advertisers can show three ad versions. The first version presents yogurt as loaded with vitamins. The second presents yogurt as having the ability to prevent high blood pressure. The last one presents yogurt as a source of protein. Scholars have observed that this strategy tends to make consumers feel more positively about the brand and the advertised products, enhance ad recall, and increase purchase intention (Schumann, Petty, & Clemons, 1990; Yoo, Bang, & Kim, 2009). Because repetition-variation in advertising presentation entails featuring the various attributes of an advertised product, it might be more effective for consumers who focus on specific details in ads.

The second strategy is the use of scarcity messages to emphasize the limited availability of the advertised product either in terms of quantity or availability (Cialdini, 2008). This strategy is anticipated to cause arousal by inciting feelings of uncertainty about whether the advertised products can be obtained, resulting in increased product desirability. Scarcity messages increase consumers’ positive attitudes toward products (e.g., Brannon & Brock, 2001; Campo, Gijsbrechts, & Nisol, 2004) as well as their purchase intentions (Aggarwal, Jun, & Huh, 2011) by instigating demand for scarce or exclusive products (Brown, 2001). Because scarcity messages explicitly inform consumers that the advertised product will, for example, be available only for a limited time, these messages make the product different from others. However, when the ads for competitive brands using scarcity messages are displayed together, consumers who focus on verbal messages and differences in details might find it difficult to distinguish the ads/products. Therefore, the persuasiveness might be reduced.

The third strategy, the use of sex appeal, entails presenting a nude or partially nude model, a model with a suggestive posture, or images that are designed to induce consumers’ sexual related thoughts, together with an advertised product (Reichert, 2003; Reichert, Heckler,
Sex appeals such as nude models can trigger arousal in an audience (Belch, Holgerson, Belch, & Koppman, 1981) and have been known for their ability to draw people’s attention (Alexander & Judd, 1983; Berkowitz, Kerin, Hartley, & Rudelius, 1997). For this reason, this strategy has been widely used to advertise various types of goods ranging from small items like personal-care products to huge ones such as industrial machinery (Alexander & Judd, 1983; Berkowitz, Kerin, Hartley, & Rudelius, 1997). Because ads with sex appeal require consumers to interpret and to connect such an appeal and the advertised product (Reichert, 2003), the effectiveness might increase for consumers who concentrate on the relationship among elements in ads.

Previous research has tested the effectiveness of the three advertising strategies in stand-alone conditions. In these cases, participants were exposed to only one ad rather than to more than one ad and then answered questions about their attitudes and purchase intention. However, in real life situations, ads that use these strategies are often juxtaposed with other ads that do the same. For example, sex appeal is regularly used in fragrance ads, which are typically placed close to each other in beauty webpages and at fragrance retailers. Studies have shown that the impact of the advertising context varies depending on how consumers process information (e.g., Malaviya, 2007; Malaviya, Kisielius, & Sternthal, 1996; Sar, 2013). For instance, those who pay attention to the overall advertising context and the association among ads (i.e., engaging in relational processing) report greater positive attitudes and higher purchase intention toward a target product when its ad is presented together with ads for other types of products (a noncompetitive advertising context) than when it is presented with other ads for different brands of a particular product (a competitive advertising context) (Sar, 2013). Given the fact that individual differences in information processing contribute to the varied effectiveness of ads in
different advertising environments, it is critical for advertisers to discover what characteristics of consumers and what advertising strategies will bring about positive results.

Communication style refers to “the way one verbally and paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered, or understood” (Norton, 1978, p. 99). A great number of studies in advertising, marketing and related fields have shown that consumers’ communication style influences their preference for advertising content (Appelbaum & Halliburton, 1993; Biswas, Olsen, & Carlet, 1992; Cutler, Javalgi, & Erramilli, 1992; Mooij, 1998; Taylor, Hoy, & Haley, 1996; Zandpour, Chang, & Catalano, 1992). People with a low-context (LC) communication style tend to obtain a significant portion of meaning from messages that are explicitly stated. They are less aware of contextual information such as situations or background data surrounding the message (Hall, 1976, 2000). Those with a high-context (HC) communication style tend to believe that messages alone carry incomplete information. They hence pay attention to messages, message context, and the relationship among messages to understand the meaning of communications (Hall, 1976, 2000). In other words, high-context communication individuals heighten the accuracy of the information and reduce their uncertainty by observing the context of the messages (Gudykunst & Nishida, 1986). Owing to differences in the strategies consumers employ to acquire meaning (Gudykunst et al., 1996; Gudykunst & Nishida, 1986; Gudykunst, Ting-Toomey, & Chua, 1988), I postulate that consumers’ style of communication will play a major role in their responses to ads (including attitudes and purchase intention) when ads of the same product category for different brands are displayed together.

Another variable of concern in this study is variety-seeking behavior. It refers to consumers’ inclination to choose multiple options in their choice set based on the characteristics, uses, and attributes of a product or service (Givon, 1984; McAlister & Pessemier, 1982;
Simonson, 1990). Consumers are, by nature, variety seekers (Givon, 1984). They display variations in behavior and consumption patterns because they crave for change from time to time (Givon, 1984; McAlister & Pessemier, 1982) regardless of their attitudes toward products and brands (Bass, Pessemer, & Lehmann, 1972). Variety-seeking behavior stimulates consumers to switch brands and products (Ratner, Kahn, & Kahneman, 1999). Even less-preferred alternatives may be selected as long as such alternatives can satisfy consumers’ goals (Goukens, Dewitte, Pandelaere, & Warlop, 2007; Wu & Kao, 2011). Consumers may switch from their favorite item to an unfamiliar item even when they know that consuming their favorite item can bring about higher satisfaction (Ratner et al., 1999).

Variety-seeking behavior can be prompted by the level of arousal consumers receive from the environment. If the environment provides them with a high level of arousal, variety-seeking is less likely to happen (Berlyne, 1960; Raju, 1980). Studies have found that a visual display can influence consumers’ variety-seeking behavior by evoking arousal. Different displays of the same product will elicit greater arousal than displays that look very similar, resulting in less variety-seeking behavior (e.g., Maimaran & Wheeler, 2008; Roehm & Roehm, 2010; Simonson & Winer, 1992). Advertising, therefore, might play a vital role in consumers’ variety-seeking behavior through ad messages and how they are presented. Repetition-variation in advertising presentation might reduce variety-seeking behavior because changes in ads cause arousal. Scarcity messages might increase variety-seeking behavior because the possibility of not being able to possess the product induces consumers to seek more arousal. Sex appeal might reduce variety-seeking behavior because such appeals generate arousal. Thus, it is pertinent to ask: In a competitive advertising context, how would consumers’ communication style interact
with each of the three advertising strategies mentioned above to influence their evaluation of ads and, ultimately, their variety-seeking behavior?

To date, no empirical study has been undertaken to explain how advertising messages influence consumers’ variety-seeking behavior. Hirschman and Wallendorf (1980), based on the proposition that consumers seek variety to obtain arousal, discussed implications of variety-seeking for advertising and advertisers. They suggested that advertisers might be able to respond to consumers’ variety-seeking by creating something “new”. That is, advertisers may launch a new advertising campaign for an existing product or introduce new alternatives to consumers. A new campaign for an existing product such as showing new uses for the product may help consumers regain arousal and thus reduce variety-seeking. According to Hirschman and Wallendorf (1980), advertisements and mass media are considered sources of arousal. Different types of advertising messages, therefore, are expected to influence consumers’ variety-seeking behavior. The magnitude of advertising’s impact might vary depending on the level of arousal the ads may trigger (Berlyne, 1960; Raju, 1980) and the way consumers process advertising messages (Jung & Kellaris, 2004). Thus, it is important to understand how these variables interact to influence consumers’ attitudes, purchase intention, and variety-seeking behavior in order to minimize negative outcomes and maximize outcomes of variables.

In a nutshell, I aim to explore the impact of different advertising strategies that are expected to influence consumers’ arousal (i.e., repetition-variation in advertising presentation, scarcity messages, and sex appeal) and consumers’ communication style on advertising effectiveness and consumers’ variety-seeking behavior. Particular attention is given to consumers’ responses to ads as a whole and their product choice in a competitive advertising environment, in which multiple ads for the different brands in the same product category are
presented using the same advertising strategy within the same medium. To this end, I conducted three experimental studies described in Chapter 3. Upon the conclusion of the studies, the implications, along with the limitations and suggestions for future research are discussed in Chapter 4.

This dissertation is organized as follows. A detailed discussion and comprehensive review of background literature on repetition-variation in advertising presentation, scarcity messages, sex appeal, communication style, and variety-seeking is provided in Chapter 2, wherein the theoretical framework of this study will also be explained in detail. Chapter 3 presents and discusses the three studies and the results of the three experiments. Study 1 examines the influence of repetition-variation ads and consumers’ communication style. Study 2 investigates the effect of scarcity messages and consumers’ communication style. Studies 1 and 2 were conducted online via Amazon’s Mechanical Turk (MTurk). Study 3 explores the impact of sex appeal and consumers’ communication style. This study was conducted in a computer lab on campus with a student sample in order to control extraneous variables. Finally, Chapter 4 synthesizes the background and findings of each study. It also discusses the implications of the findings to advertising research, the study limitations, and suggestions for future studies.

Significance of the Study

This dissertation is expected to benefit both academic and advertising professionals. For academic purposes, the findings will make significant contributions to the understanding of the interplay between one of the three advertising strategies (i.e., repetition-variation in advertising presentation, scarcity messages, and sex appeal) in a competitive advertising environment and consumers’ communication style on consumers’ attitudes, purchase intention, and variety-seeking. This line of inquiry has yet to receive considerable research attention. Past studies have
investigated the effects of repetition-variation in advertising presentation, scarcity messages, and sex appeal by focusing on one target ad at a time (e.g., Eisend, 2008; LaTour & Henthorne, 1994; Lee, Ahn, & Park, 2015; Mukherjee & Lee, 2016; Roy & Sharma, 2015; Schumann et al., 1990; Stevern, Belch, & Belch, 1999). The empirical findings that are limited to examining consumers’ reactions to an isolated ad elevate questions about their applicability to other advertising environments. So far, little attention has been paid to examining the effectiveness of these advertising strategies in a competitive advertising environment, where ads use the same arousal-stimulating strategy, along with the role of consumers’ communication style. This dissertation extends the advertising literature by offering preliminary results of the interactive and main influences of three advertising strategies and consumers’ communication style on the persuasiveness of ads and consumers’ variety-seeking behavior.

Marketers estimate that American consumers face approximately 4,000 – 10,000 ads each day (Marshall, 2015). Digital advertising revenue in the U.S. in 2015 surged more than 20 percent from that of the previous year (Slefo, 2016). The multiplication of ads to which an individual consumer is exposed on a daily basis contributes to challenges for advertisers – to create ad content that can catch consumers’ attention and to build positive feelings toward the ad, brand, and product (Interactive Advertising Bureau: IAB, 2016). A dramatic increase in the number of ads also has a negative impact on the effectiveness of an individual ad. Consumers might feel overwhelmed, lose their attention to the ad, and develop a negative attitude toward the ad when too many ads are shown (Elliott & Speck, 1998; Ha, 1996; Ha & McCann, 2008; Webb & Ray, 1979). Therefore, knowing the characteristics of target consumers and how different types of advertising strategies interact to influence advertising effectiveness could help brand managers and advertisers employ appropriate advertising placement strategies especially in a
competitive advertising environment. Advertisers could place their ads in an environment that facilitates consumers’ information processing and could avoid a situation that inhibits consumers’ information processing by observing how consumers in specific areas communicate. The findings of this dissertation should goad advertisers and marketers to be more cautious about the effects of advertising features so that they are able to employ appropriate advertising strategies that are sensitive to target consumer characteristics.

The next chapter presents the conceptual framework and background literature relating to repetition-variation in advertising presentation, scarcity messages, and sex appeal. These three advertising strategies are hypothesized to influence consumers’ arousal. Research on communication style and how consumers’ communication predisposition influences how they process in the ads and how these factors affect consumers’ arousal, attitudes, purchase intention, and variety-seeking is also discussed.
CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Advertising and marketing research has established connections between advertisements and consumers’ attitudes and behaviors. Positive attitude toward the ad has been found to transfer to attitude toward the brand and ultimately, purchase intention (Brown & Stayman, 1992; MacKenzie, Lutz, & Belch, 1986). However, the impact of consumers’ communication style and advertising techniques (i.e., those that employ repetition-variation in advertising presentation, those that use scarcity messages, and those that use sex appeal) in a competitive advertising environment on consumers’ attitudes, purchase intention, and variety-seeking remains under-explored. This chapter explores how these variables interact to influence advertising effectiveness (consumers’ attitudes and purchase intention) and variety-seeking behavior. First, the chapter introduces the optimum stimulation level theory (OSL), which is the overarching theme of this dissertation. Then, the literature and empirical findings on the three advertising strategies (repetition-variation in advertising presentation, scarcity messages, and sex appeal) are reviewed. Their effect on consumers’ arousal is explained. Subsequently, the conceptual framework and theory pertaining to communication style are presented. Finally, the concept of variety-seeking behavior is discussed.

**Optimum stimulation level (OSL) Theory**

The theory of optimum stimulation level (OSL) posits that consumers strive to maintain their ideal magnitude of arousal (Berlyne, 1960; Leuba, 1955; Raju, 1980; Steenkamp & Baumgartner, 1992). When the arousal is at OSL, a person is at the highest state of psychological pleasantness, and functions most effectively. When the actual arousal level is below optimum, an individual feels bored. The person thus attempts to be aroused at the optimum level through
several ways, such as engaging in complex situations, exploring something new, or seeking variety in the goods and services he/she buys. Conversely, when the actual arousal level is higher than OSL, a person will be too excited and will try to reduce arousal by avoiding the activities just listed (Berlyne, 1960; Chen & Paliwoda, 2004; Hoyer & Ridgway, 1984; Raju, 1980; Steenkamp & Baumgartner, 1992; Venkatesan, 1973).

Arousal, which is a generalized feeling of activation (Feldman, 1996; Zillmann, 1974), has been connected to the formation of affective and cognitive responses (Holbrook & Hirschman, 1982; LaTour et al., 1990; Singh & Churchill, 1987). Arousal ranges from “calm, drowsy, or peaceful” to “energized, excited, and alert” (Lang, Dhillon, & Dong, 1995, p. 314). Stimuli in the environment that are associated with change, complexity, incongruity, novelty, or uncertainty can evoke consumers’ arousal. Ads can be categorized as stimuli and thus can influence consumers’ arousal. For example, ads with repetition-variation should affect consumers’ arousal via changes in advertising presentation. Ads with a scarcity message should influence consumers’ arousal by triggering feelings of uncertainty, which in turn, increase product desirability. Ads with sex appeal have been found to generate arousal (Belch et al., 1981). The influence of each of these strategies on attitudes, purchase intention, and variety-seeking is discussed below.

Repetition-Variation in Advertising Presentation

Marketers aim to develop favorable attitudes toward the ad, the brand, and the product by increasing the number of times consumers are exposed to the ad (i.e., repeating the same ad). Studies have shown that incremental increases in exposure initially results in more positive attitude toward the advertised product (Craig, Sternthal, & Leavitt, 1976; Haugtvedt, Schumann, Schneier, & Warren, 1994). However, multiple exposures to the same ad can make the ad less
effective as repetition increases. After repeatedly viewing a particular ad, consumers become bored and irritated. They consequently stop paying attention to the ad and start developing negative attitudes toward the ad and the advertised product (Cacioppo & Petty, 1979; Calder & Sternthal, 1980). To regain consumers’ interest and attention, advertisers might vary the execution of ads within a single advertising campaign by presenting similar, but not identical, ads. The use of different versions of an ad is referred to as repetition-variation in advertising presentation (Schumann et al., 1990). Some researchers argue that repetition-variation performs better than exposing consumers many times to one ad because overexposure to a certain ad can lead to wear-out effects or conditions in which an ad no longer provides significant—or even a negative—effect on consumers’ attitudes toward the ad, the advertised product, and the brands (Bass et al., 1972; Burnkrant & Unnava, 1987; Craig et al., 1976; Pechmann & Stewart, 1988; Schumann & Clemons, 1989).

Repetition-variation in advertising presentation not only refreshes consumers’ perception of ads, but also makes the brand attributes more salient in consumers’ mind (Yoo et al., 2009). Several studies have noted the effectiveness of repetition-variation. For example, Grass and Wallace (1969) asked participants to view a video clip and to press a foot pedal to control for image clarity. They measured the frequency of pedal pressing as the level of participants’ interest. The results indicated that participants rapidly lose interest when the same ad was repeatedly shown. In contrast, when different ads for the same product were presented, there was no significant loss in interest. McCullough and Ostrom (1974) showed participants print advertisements that were slightly different and asked them to evaluate the advertised product. They found that participants reported greater product liking as repetition increased. Burnkrant and Unnava (1987) compared participants’ brand recall when presented with different ad copies
within a campaign as opposed to a single ad copy several times. They found that brand recall was significantly higher under the varied condition.

Advertising variation strategies can be divided into two categories depending upon the type of changes that are evident across versions of an advertisement. *Cosmetic variation* is one in which changes are made to the peripheral aspects of the content of ads such as appearance, format, endorsers, color, and ad layout. Such changes are not related to important attributes of the product being advertised, and the core messages remain the same across ads. For instance, advertisers might show different background sceneries to promote a product. The success of cosmetic repetition-variation was evident with an Absolut Vodka campaign in the year of 2000. More than 600 versions of ads were created with core messages showing the brand name and the product bottle. This strategy resulted in 140 times of sales increment in a 15-years period (Armstrong, 2010). Another category of advertising variation is known as *substantive variation*. Here, advertisers change the central messages such as main arguments and product attributes. In this case, the cosmetic properties of the ad are kept constant over repeated presentations. For example, advertisers might promote a product’s taste in one ad and then highlight its price in another (Schumann et al., 1990).

Building upon the Elaboration Likelihood Model (ELM) of persuasion, Schumann and Clemons (1989) explained how repetition-variation strategies might influence consumers’ attitudes. The ELM postulates two different routes to persuasion: the central and peripheral routes (Petty & Cacioppo, 1979; Petty & Cacioppo, 1981). Consumers go through the central route when they are willing and are able to engage in extensive thought about the advertised product. The attitude formed under their diligent consideration process is more enduring and predictive of their behavior (Cialdini, Petty, & Cacioppo, 1981). Consumers go through the
peripheral route when they are unmotivated or are unable to elaborate on information about the advertised product. They form their attitude from peripheral features such as the attractiveness of the endorser. Their attitude, which is based on the inference of cues associated with advertising attributes rather than on elaborative thought about the advertised product, is relatively temporary and not predictive of their behavior (Petty, Cacioppo, & Schumann, 1983).

Schumann and Clemons (1989) suggested that under high likelihood of elaboration, substantive variation in repeated ads would have a greater impact on advertising effectiveness because the practice could retain consumers’ interest and delay possible tedium effects. On the contrary, under low likelihood of elaboration, cosmetic variation in repeated ads would have a greater effect on advertising effectiveness because consumers are unmotivated to process information and form their attitude by making inferences about the advertised product based on the characteristics of ads.

To test their prediction, Schumann et al. (1990) manipulated participants’ personal relevance to the product by informing them that they would receive a gift at the end of the study. Participants in the high relevance condition were told to choose one of several brands of writing instruments, which were in the same product category as the advertised product in the study. They then were informed that the advertised product would be available in their area soon. Participants in the low relevance condition were asked to choose one of several brands of mouthwash, which was in a different product class from the target advertised product. They were told that the advertised product would be available in a faraway area. All participants were subsequently exposed to a slide presentation of print ads of a pen with an accompanying audio script.
In the first study, the cosmetic variation condition was compared with the repetition condition, in which the same ad was shown four (medium repetition frequency) or eight (high repetition frequency) times. In the cosmetic variation condition, eight ads were varied with respect to the product endorser, font, layout, color of the advertised product, and wording of the same substantive arguments. The results showed that participants in the low product-relevance condition reported less favorable attitude toward the product when the same ad was repeated than when the ad was displayed with variation. The effect disappeared for participants in the high product-relevance condition.

In the second study, the substantive variation condition was compared with the repetition condition, in which the same ad with identical pairs of message arguments for the writing instrument product was shown three (medium repetition frequency) or five (high repetition frequency) times. In the substantive variation condition, five ads were varied with respect to the two message arguments presented in each ad. The results indicated that participants in the high-relevance condition reported more favorable attitude toward the product in the ads with variation than the ads that were repeatedly shown. The effect was absent for participants in the low-relevance condition. In sum, the findings provided evidence that cosmetic variation (versus repetition) is effective when the products are of low relevance to consumers while substantive variation (versus repetition) is effective when the products are of high relevance to consumers.

In their study, Schumann et al. (1990) also examined the repetition frequency of ad exposures. They assigned participants into a control condition (i.e., those who were exposed only once to one of the eight ads), a moderate condition (i.e., those who viewed either the four identical ads or the four variations of the ad), or a high frequency condition (i.e., those who watched either the same ad eight times or the eight variations of the ad). They found that when
consumers were exposed to a moderate number of ads, cosmetic variation not only enhanced brand recall, but also increased positive attitudes toward the ads and the product, especially those for whom the product had low personal relevance. The opposite result was evident among consumers who saw the advertised product as having high personal relevance to them, in the substantive variation condition. They reasoned that high level of repetition invited a potential source of negative reaction from consumers as these consumers digest the effects of a repeated theme.

The repetition-variation strategy has been found to be more persuasive when a series of ads are consistent in theme, but executed in different ways than when a series of ads are inconsistent in theme and executed differently. Consumers show more favorable attitudes toward brands and report higher purchase intentions when exposed to consistent ads rather than inconsistent ads. The consistent ad series helped reinforce brand personality, whereas the inconsistent ads created confusion about brand personality (Yoo et al., 2009). The repetition-variation strategy, however, has been found to be inappropriate for narrative advertising because changes in plots make the story more complicated and more difficult to comprehend. Consequently, consumers demonstrate less positive attitudes toward the ads and the brand (Chang, 2009).

In a nutshell, repetition-variation in advertising presentation provides consumers with different details about the advertised products. This advertising strategy emphasizes specific features of the advertised products, making it easier for consumers who are likely to pay attention to specific information in ads to process advertising messages and resulting in more persuasive effects. Changes in advertising presentation might generate different levels of consumer arousal. Those who pay attention to specific details in ads might obtain less arousal
than those who focus on the association between ads and ad context because the ads are congruent with their information processing strategies (Figure 2.1).

![Diagram showing the influence of repetition-variation in advertising presentation on attitudes, purchase intention, and variety-seeking.]

**Figure 2.1**: The influence of repetition-variation in advertising presentation on attitudes, purchase intention, and variety-seeking

The next section introduces another advertising strategy that might influence consumers’ arousal. Scarcity appeals are anticipated to impact consumers’ arousal by making consumers feel uncertain about their ability to acquire the product. Therefore, their product desirability increases.

**Scarcity Messages**

Consumers are generally responsive to alternatives that become less available (Lynn, 1991). They express higher demand for choices that are harder to obtain (Lynn, 1992). When consumers are deprived of the freedom to get objects, these objects become more attractive to them (Brehm, 1972). Consumers tend to value an option to the extent that such an option is unavailable to them (Brock, 1968) or difficult to acquire. Worchel, Lee, and Adewole (1975) asked participants to rate the value and attractiveness of cookies that were either in scarce or
abundant supply. They found that participants like the cookies in scarce supply more, found the scarce cookies more attractive, and assigned these cookies higher value than those in the abundant condition. The effect was stronger when cookies were made abundant at first and then made scarce later.

Based on this knowledge, marketers have used scarcity as a marketing instrument or ploy. They make a product appear scarce by limiting its supply thereby enhancing demand for it (Verhallen & Robben, 1994). For example, they might launch limited edition versions to heighten a product’s desirability (Jung & Kellaris, 2004). Limited edition products are defined as those with additional features, which are new, are introduced by the brand as part of the original product line, and offered for a short period of time or in limited quantity (Balachander & Stock, 2009; Gourville & Lassiter III, 1999). Steinway used this strategy to sell 140 pianos in celebration of their 140th anniversary. Dealers bought the limited edition pianos within hours (Gourville & Lassiter III, 1999).

Scarcity messages emphasize the limited availability of a product. Such messages imbue consumers with a sense of urgency and concern, heightening their subjective demand for the product. This phenomenon is called the “scarcity effect” (Cialdini, 2008). Advertisers may employ either limited-quantity scarcity (LQS) or limited-time scarcity (LTS) messages. The former stresses a restricted quantity of the advertised product, whereas the latter highlights a restricted time period when consumers can obtain the advertised product before it becomes unavailable (Aggarwal et al., 2011; Cialdini, 2008). LQS has been found to have a more profound impact on consumer purchase intentions than LTS because LQS generates competition for the product (Aggarwal et al., 2011). Consumers not only have a higher desire for a scarce product, they tend to desire the product more when they are in competition with others to acquire
it (Cialdini, 2008). Limited availability creates a sense of uncertainty, making consumers view the product as more special. This notion, in turn, amplifies the product’s value (Bolton & Reed, 2004).

Consumers process scarcity messages and utilize perceived scarcity as a heuristic cue in making their selection (Rhoads & Cialdini, 2002; Worchel, Lee, & Adewole, 1975). Perceived scarcity signals high product quality to uninformed consumers. Such consumers are thus willing to pay more for the privilege of owning an “exclusive” high-quality product (Balachander & Stock, 2009; Brown, 2001; Stock & Balachander, 2005). Scarcity messages have been found to enhance consumers’ tendencies to purchase more, to increase their product satisfaction, and to minimize the time they spend searching for products (Aggarwal et al., 2011). Analyzing scanner panel data, Aggarwal and Vaidyanathan (2003) reported that scarcity messages such as limited duration of promotion offers could accelerate purchase. Consumers expressed greater willingness to buy and exhibited lower search for a better deal when the limited time offer was shown.

In sum, scarcity messages create a sense of uncertainty about possessing the advertised products. Consumers thus find the product and the ad more attractive and increase their desire to obtain the products. Product desirability drives consumers to seek more arousal from product selection. Therefore, their variety-seeking in advertised products is likely to increase. Because scarcity messages directly inform consumers about the limited availability of products, such messages might have a greater impact on those who prefer explicit and context-free messages than those who prefer implicit messages (Figure 2.2).
Figure 2.2: The influence of scarcity messages on attitudes, purchase intention, and variety-seeking

The following section discusses sex appeal, one of the most popular advertising strategies that used in the U.S., Europe, and Asia (e.g., Huang & Lowry, 2012; Nelson & Paek, 2008; Reichert & Carpenter, 2004).

Sex Appeal

Sex appeal in advertising, in this dissertation, is defined as ad content that illustrates sexuality, such as a nude or partially nude endorser and suggestive model postures (Belch et al., 1981; Reichert, 2003; Reichert et al., 2001). Because of its potential to generate psychophysiological and cognitive responses among audiences, sex appeal is used frequently in advertising although it may or may not be related directly to the advertised products (Belch et al., 1981; Reichert, 2003; Reichert & Lambiase, 2006). Previous studies found that sex appeal can arouse consumers’ emotion and can attract consumers’ attention resulting in higher attention to product and brand, greater ad recognition and recall. Compared to non-sex appeal, sex appeal is perceived as more engaging, interesting, and entertaining (Alexander & Judd, 1978; Belch et al.,
The persuasiveness of sex appeal in ads is still unclear. The results of previous studies on the influence of sex appeal on attitudes toward the ad and the brand as well as purchase intention are contradictory (Wirtz, Sparks, & Menezes Zimbres, in press). For example, Darby (2007) found that consumers express a greater preference for ads showing higher nudity than those showing lower nudity, while other researchers (e.g., Peterson & Kerin, 1977; LaTour & Hentorne, 1994) demonstrated that consumers find ads with nude models less favorable than ads with partially nude models. Other studies did not observe the influence of nudity on consumers’ responses (Black and Morton, 2015; Wan, Luk, and Chow, 2014).

Congruity between the advertised product and the use of sex appeal is found to affect the persuasiveness of sex appeal in ads (Peterson & Kerin, 1977). An example of a product that often employs sex appeal in its advertising is fragrance. For example, Reichert and Alvaro (2001) exposed participants to either a fragrance ad with sex appeal or a fragrance ad without sex appeal. They found that participants in the sex appeal condition were more engaged with the ad, expressed greater positive attitudes toward the ad, and showed higher ad recall than those in the non-sex appeal condition. These effects were found to last for two months. Their findings imply that sex appeal requires consumers to draw a connection between the advertised product and the sexual content.

People also respond to sexual content differently (Reichert et al., 2001; Sawang, 2010). For some, sexual content can trigger positive affect and hinder counter arguments when the message is related to the topic because the content promotes thoughts that are relevant to the advertising message. Others, however, are distracted by the sexual content from focusing their
attention on the advertised products and the advertising messages (Reichert et al., 2001; Severn & Belch, 1990). This led Devies, Zhu, and Brantley (2007) to propose that exposure to sexual content activates consumers’ sexual self-schema – cognitive generalizations about sexual aspects of self (Andersen & Cyranowski, 1994, p.1092) – so that those exposed to ads with sex appeal would react faster to words with sexual meaning. In their experiment, they asked participants to view fragrance ads with sex appeal or fragrance ads without sex appeal before letting them complete a word/non-word lexical decision task. In this activity, the participants were asked whether a string of letters shown on a computer screen constituted a word or a non-word. The researchers measured the accessibility of information through participants’ reaction time. The results showed that participants in both conditions spent equal time completing the task containing sexual words. Participants who had a negative schema about sex took a longer time to respond to sexual words than non-sexual words in the lexical decision task. The results imply that a negative schema, which can be triggered by sex appeal, may inhibit the accessibility of sexual information in one’s memory. These effects were not observed among participants with a positive sexual schema.

Sex appeal such as the use of nudity has been found to produce physiological arousal (Belch et al., 1981). Owing to the fact that sex appeal requires consumers to make a connection between the advertised product and sex appeal to understand the ad, an ad with sex appeal might be more persuasive for consumers who focus on the relationship among objects in the ad content (i.e., the advertised product and sex appeal) than those who focus on specific content in the ad (Figure 2.3).
Figure 2.3: The influence of sex appeal on attitudes, purchase intention, and variety-seeking

In this dissertation, I propose that the effect of the three advertising strategies (repetition-variation in advertising presentation, scarcity messages, and sex appeal) will interact with the way consumers interpret and understand the advertising messages to influence arousal, attitude, and purchase intention. The way consumers process advertising messages is largely influenced by their communication style.

Communication Style

Communication style refers to an individual’s preferred approach in exchanging ideas and information with others. It can be conceptualized as a continuum ranging from low-context to high-context depending on how much an individual relies on the communication context to understand the meaning of messages (Hall, 1976, 2000). Context is defined as the background, circumstance, environment, or situation where communication takes place (Hall, 2000). A person with a high-context communication style relies more heavily on message context than a person with a low-context communication style.
A person with a low-context communication style prefers information that is conveyed through direct and explicit messages independent from the context. Because information is explicitly transmitted via the message itself, those who adopt this communication style see no need to interpret other elements in the communication situation (Hall, 1976). A person with a high-context communication style, on the other hand, prefers most of the information “either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message” (Hall, 1976, p. 79). This implies that those who adopt this style need to interpret the message context in the communication process in order to gain information.

The concepts of low- and high-context communication styles elucidate individual differences in communicative and thought patterns (Choe, 2001; Gudykunst et al., 1996; Gudykunst & Nishida, 1986; Gudykunst et al., 1988; Hall, 1976; Hall & Hall, 1990). Persons with a low-context (LC) communication style place great importance on verbal elements to transmit and decode messages. Their ultimate goal is to transfer information and facts. They, therefore, tend to rely extensively on messages and are not likely to use external references to interpret the context and comprehend the message. LC communication style individuals prefer clear, direct, and unambiguous messages (Althen, 1992; Gudykunst et al., 1996; Gudykunst et al., 1988; Hall, 1976). They are more attracted to messages that are quick and easy to understand and require little effort to interpret (Hall & Hall, 1990).

People with a high-context (HC) communication style believe that true meaning is embedded in the message context. It is necessary for them to decipher implicit messages by observing and drawing conclusions from environmental and situational cues to get actual meaning (Hall, 1976; Keegan, 2013; Simintiras & Thomas, 1998). HC communication style individuals tend to prefer understated, indirect, and ambiguous messages (Gudykunst et al.,
They consider context and content as equally important. If the messages are put in the right context, they can understand the intended meaning even though these messages are explicit or not entirely verbalized (Kim, Pan, & Park, 1998). Messages that require some effort to interpret and understand appeal to them (Hall & Hall, 1990).

LC and HC communication style individuals have been found to have different thought patterns, which are defined as “forms of reasoning and approaches to problem solution” (Choe, 2001, p. 3). Those with LC communication style tend to emphasize linear logic, rationality, and facts (Kaplan, 1966). To them, reality is fragmented and compartmentalized. Truth can be reached through a linear discovery process. They process incoming information by starting from information that is already stated and then proceed to information that is about to be given (Chen & Starosta, 1998; Choe, 2001; Kaplan, 1966). They focus more on specific information to heighten accuracy (Gudykunst & Nishida, 1986). Their thinking pattern is more likely to be rational and analytic (Ting-Toomey, 1985; Wang, 2008).

Those with HC communication style tend to stress spiral logic (Ting-Toomey, 1985). To them, the truth will manifest through non-linear discovery processes that do not require rationality (Kaplan, 1966). Essential information is laid within the message context; the messages tend to skirt the issue so that the main points or truth can be acquired through inference (Chen & Starosta, 1998; Choe, 2001; Kaplan, 1966). They concentrate more on information that will increase accuracy in an indirect form of communication (Gudykunst & Nishida, 1986). Their thought patterns are more likely to be holistic, jumping back and forth between explicit messages and contextual cues (Wang, 2008). For instance, when disagreeing with their interlocutor, consumers with HC communication style tend to say, “You have a good point. But
how about [...]?” Consumers with LC communication style, in contrast, are more likely to say, “I disagree with that thought. I think [...].”

Consumers’ communication style and their cognitive process are intertwined (Mitchell, 1999). People have learned to communicate through language from the time they were children. The way they communicate becomes an essential instrument in shaping their cognitive development (Vygotsky, 1986). Therefore, communication style suggests how consumers perceive the world around them, what to notice and what to ignore, and their predisposition to cognitive strategies (Mitchell, 1999). Reciprocally, cognitive style determines the way in which consumers habitually perceive, retrieve, and process information (Porter, 1998). This implies that cognitive style has an impact on how consumers convey and receive incoming information (Fornell, 1992).

LC communication consumers typically develop knowledge through an inductive process that focuses on detail (Gudykunst et al., 1988). They prefer ads with rational appeals, and are likely to pay attention to specific arguments in advertising. Ads containing direct, textual, factual, and assertive content are more engaging to them (De Mooij, 2004; Gudykunst & Nishida, 1986; Liao, Proctorb, & Salvendyc, 2008). The way LC communication style consumers attain knowledge can be analogous to an item-specific system of thought, which involves “a detachment of the object from its context, a tendency to focus on attributes of the object to assign it to categories, and a preference for using rules about categories to explain and predict the objects’ behavior” (Nisbett, Choi, Peng, & Norenzayan, 2001, p. 293). Therefore, consumers with an LC communication style are inclined to isolate an object from its environment and categorize it by analyzing its properties (Nisbett, 2003).
On the other hand, consumers with an HC communication style generally see knowledge as embedded in the circumstance. They tend to employ multiple sources of information to develop knowledge through a deductive process, as they believe that things are connected, synthesized, and global (Gudykunst et al., 1988). Ads containing intuitive, emotional, or aesthetic content that allow them to draw clues from the advertising context are more attractive to them (Gudykunst et al., 1988; Taylor et al., 1996). The way HC communication style consumers obtain knowledge can be analogous to a relational system of thought, which involves “an orientation to the context of field as a whole, including attention to relationships between a focal object and the field, and a preference for explaining and predicting events on the basis of such relationships” (Nisbett et al., 2001, p. 293). They are likely to bind an object with its environmental context and focus on the relationship among objects in such an environment (Nisbett, 2003).

Communication style determines the way consumers perceive things around them, including their choice of communication channels and their preferred advertising content (Campbell, Graham, Jolibert, & Meissner, 1988; Richardson & Smith, 2007; Taylor et al., 1996). Taylor et al.’s (1996) in-depth interviews with HC communication consumers indicated that they tend to evaluate advertisements from an aesthetic aspect. They prefer ads that allow them to use their imagination to interpret messages. An analysis of the visual components of print ads reveals that ads made for LC communication audiences contain significantly more information, are less emotional, have fewer sex appeal and fewer symbolic appeals as exemplified by the use of metaphors, the style of storytelling, and aesthetic, compared to ads created for consumers with HC communication style (Biswas et al., 1992; Cutler et al., 1992). Consumers’ communication style also influences the design of company websites. Previous studies demonstrate that websites
for LC communication customers tend to be more direct, contain more informative content, and use more hard-sell appeals (e.g., highlighting product attributes with explicit information and employing competitive persuasion), whereas websites for HC communication customers use more soft-sell appeals (e.g., stirring emotions through visuals and symbols) (Hermeking, 2005; Liao et al., 2008; Würtz, 2006).

Overall, previous literature has concentrated on types of ad content that contribute to the effectiveness for consumers with LC and HC communication styles. However, based on the fact that LC and HC communication consumers differentially attend to context when they process ad information (Hall, 2000), the context of the ad should be taken into account.

**Advertising Context**

The context in which an ad is placed affects its effectiveness (e.g., Kim & Sundar, 2010; Moore, Stammerjohan, & Coulter, 2005). Greater congruity between an ad and its context has been found to induce more positive ad evaluation because congruity facilitates consumers’ information processing (Coulter, 1998; Mandler, 1982; Moore et al., 2005). Ad context influences consumers’ learning from the ads and their judgments by promoting different types of information processing (Malaviya, 2007; Meyers-Levy, 1991). When ads for competing brands of the same product are presented adjacent to each other in the same medium, it is referred to as a competitive advertising context (Britt, Adams, & Miller, 1972; Sar, 2013). Malaviya et al. (1996) suggested that a competitive advertising context goads consumers to elaborate on information by associating an object with the categories to which such an object might belong (i.e., relational information processing). This is because a competitive advertising context sensitizes consumers to the commonalities among ads, highlighting the product category in consumers’ mind. For
example, in a situation in which an ad for a camera is placed next to ads for other cameras, consumers are likely to think about the camera product category. Thoughts about the camera product category, in turn, will induce other thoughts associated with other cameras and features related to the camera, but are not specifically stated in the ad (Malaviya, 2007).

The congruence between an individual’s information processing style and the way in which information is organized has been found to promote information processing fluency, which helps consumers interpret and recognize information. People are psychologically rewarded upon completing a cognitive task. The more fluent a person becomes in processing information, the more positive affective responses are produced, which can transfer to the object being evaluated (Higgins, 1998; Winkielman, Schwarz, Fazendeiro, & Reber, 2003). Consumers with HC communication predisposition should be more facilitated by a competitive advertising context than consumers with an LC communication style. This is because HC consumers are more likely to be attuned to contextual information and to combine ad content and context when they process ad information. Therefore, the competitive advertising context makes it easier for them to find the association among ads (Hall, 1976, 2000; Masuda & Nisbett, 2001).

Previous studies have looked at the effects of repetition-variation in advertising presentation, scarcity messages, and sex appeal in terms of recall, attitude toward the ad, the brand, the advertised products, and purchase intention (Alexander & Judd, 1978; Belch et al., 1981; Brannon & Brock, 2001; Campo et al., 2004; Courtney & Whipple, 1983; Devies, Zhu, & Brantley, 2007; Reichert & Alvaro, 2001; Reichert et al., 2001; Reid & Soley, 1981; Schumann et al., 1990). So far, none has explored their effects in a competitive advertising context on consumers’ attitudes, purchase intention, and variety-seeking. In this dissertation, consumers’ variety-seeking behavior is examined because it is not influenced merely by consumers’ attitudes
(Bass et al., 1972), but is rather triggered by stimuli in the environment (Berlyne, 1960; Menon & Kahn, 1995), including advertising content. Repetition-variation in advertising presentation, scarcity messages, and sex appeal are predicted to affect consumers’ arousal and, in turn, influence consumers’ variety seeking behavior (Raju, 1980).

**Variety-Seeking Behavior**

Variety-seeking behavior is conceptualized as consumers’ inclination to include diverse items of a particular product category in their choice set owing to the utility inherent in the process of change among items *per se* (Givon, 1984; Kahn, 1995; Simonson & Winer, 1992). Consumers have been found to exhibit variety-seeking even when their attitudes and preferences toward products remain constant (Bass et al., 1972). The behavior, therefore, is motivated by the intrinsic rewards from switching rather than by problems encountered with each option (Givon, 1984; Kahn, 1995; McAlister & Pessevier, 1982; Raju, 1984). Because consumers gain inherent satisfaction from variety, their choices are not always their most favorite ones. Consumers may select less-preferred alternatives although these alternatives might result in less consumption enjoyment (Ratner et al., 1999). They sometimes pick novel choices, especially those they have never experienced before (Menon & Kahn, 1995).

Variety-seeking is idiosyncratic. The desire for variety varies across persons at a given point in time as well as across products. A person might search for a great variety of products within a certain product class and avoid variety in others (Chance & French, 1972; Givon, 1984; Ho & Ilic, 2014). Although the concept of variety-seeking is similar to that of novelty-seeking in that both arouse consumers, the two are significantly different. Variety-seeking includes the tendency of an individual to search for diversity in both familiar and unfamiliar options, whereas novelty-seeking refers to the proclivity of an individual to find novel or unfamiliar experiences.
Thus, not all variety-seeking behaviors can be considered novelty-seeking behaviors (Hoyer & Ridgway, 1984; Pearson, 1970; Ratner et al., 1999). When consumers seek variety in a particular class of product, this behavior extends to both unfamiliar and familiar alternatives for brands, flavors, package sizes, and quality (Bauer, Kotouc, & Rudolph, 2012; Chuang, Cheng, Wang, & Cheng, 2013; Ratner & Kahn, 2002).

The mechanism underlying consumers’ variety-seeking behavior can be explained through the optimum stimulation level (OSL) theory. Switching from one option to another, even from among familiar ones, has been found to increase consumers’ arousal level. Because variety-seeking is considered a method to enhance one’s level of arousal, the behavior is less likely to occur when an individual receives enough arousal from the environment. In such a case, consumers tend to stick to a purchasing routine (Berlyne, 1960; Chen & Paliwoda, 2004; Hoyer & Ridgway, 1984; Raju, 1980; Steenkamp & Baumgartner, 1992; Venkatesan, 1973). In contrast, when an individual does not gain enough arousal, they are prone to engage in variety-seeking through one of two aspects.

Aspects of Variety-Seeking

Consumers have been found to switch erratically from their favorite brands and products from time to time without any obvious rationale (Berne, Mugica, & Yague, 2001). They do so in various ways—by varying the items to choose from (Ratner et al., 1999), by switching among brands (Givon, 1984), or by altering their selection strategy such as shifting their focus from price to product quality (Drolet, 2002). They may display variety-seeking behavior when they select a single item or multiple items within a particular product category. When consumers choose one item at a time, they may switch to another brand or option, which is different from what they selected on the last purchase occasion. For example, consumers may go to a grocery
store to buy a snack to consume immediately. This condition is known as a *sequential choice task* (Givon, 1984; Kahn, Kalwani, & Morrison, 1986; McAlister & Pessemier, 1982; Simonson, 1990). Another condition involves a *simultaneous choice task* in which consumers choose from several brands or items within the same product category when they select more than one option at once for future consumption (Ratner & Kahn, 2002; Read & Loewenstein, 1995; Simonson, 1990). For example, consumers go to a grocery store to purchase five snacks they intend to consume in the next five days (one snack a day). This task requires greater cognitive effort because consumers need to predict their preferences, which might change over time (McAlister, 1982; Simonson, 1990).

Consumers do not seek the same degree of variety in a sequential and simultaneous selection. They are generally inclined to seek less variety when they make a single decision for immediate consumption than when they make multiple decisions simultaneously for future consumption (Simonson, 1990; Simonson & Winer, 1992). Simonson (1990) asked participants to select snacks from six alternatives; their selections were recorded. He then gave participants one of three choice tasks: a sequential choice task (selecting one snack each week for three consecutive weeks), a simultaneous choices task for sequential consumption (selecting three snacks at a time and subsequently receiving one of these snacks each week for the following three weeks), or a simultaneous choices task for immediate consumption (selecting three snacks at a time). The results showed that participants in the simultaneous choices task for immediate consumption condition selected the greatest variety of snacks, followed by those in the simultaneous choices task for sequential consumption condition, and lastly by those in the sequential choices condition.
In addition, purchase quantity per shopping occasion has been found to play an important role in consumers’ variety-seeking behavior. As consumers purchase more items, they are more likely to embrace more variety and tend to include items they do not usually select. This phenomenon is referred to as “diversification bias” (Read & Loewenstein, 1995; Simonson & Winer, 1992). Diversification bias happens because consumers trivialize the level of satisfaction they might obtain from the repeated consumption of the same product. When consumers are able to predict what they want to consume in the future, they generally overlook the time interval between each consumption occasion, which results in perceived excessive satiation and thus prohibits consumers from selecting the same items (Kahneman & Snell, 1992; Read & Loewenstein, 1995).

Researchers use several methods to measure the magnitude of consumers’ variety-seeking behavior.

**Measures of Variety-Seeking Behavior**

The term “variety-seeking” has been defined in many ways. Some definitions include a person’s inclination to seek diversity in choices either over time or at the time of purchase. Scholars have proposed different measures of variety-seeking based on how it has been defined and the dimensions of choice selection. These definitions are summarized below.

First, researchers operationalize variety-seeking by counting the number of items consumers selected within their choice set. The more dissimilar these items are, the greater variety-seeking has been exhibited. For example, given that three product brands—A, B, and C—are provided and a consumer can select three items from these three brands in any combination, if she includes all three brands in her choice set (i.e., A, B, C), the degree of
variety-seeking is equal to three. However, if a consumer includes three items of only one brand (i.e., A, A, A), the degree of variety-seeking is one. This method is used to measure consumers’ tendency to seek variety in simultaneous choice occasions (Simonson, 1990). Using this measure, Levav and Zhu (2009) instructed participants to go through either a wide or narrow grocery aisle to choose three candy bars of any kind, in any combination they pleased out of six different types of candy bars (there were ten bars for each candy type) available at the end of the aisle. Researchers counted the types of candy bar selected as a measure of variety-seeking.

Second, researchers may look at consumers’ historical choice patterns and capture the deviation in their choices. The frequency of switching purchases indicates the tendency to search for various options. If there is no dominant option in the choice history, variety-seeking is said to be high. For example, if the choice pattern is A-B-C, the extent of variety-seeking is equal to three (Levav and Zhu, 2009; Mitchell, Kahn, & Knasko, 1995; Pessemier, 1985). This is used to measure variety-seeking in a sequential choice task.

Third, researchers may count the number of times people switch (i.e., consumers select an alternative that is dissimilar to the one immediately preceding it). The more switches occur, the higher the variety-seeking behavior. For example, if a consumer selects brand A at Time 1, then picks brand B at Time 2, but later turns back to A at Time 3, the magnitude of variety-seeking is equal to two because consumers switched among choices twice (i.e., from A to B and from B to A). The extent of variety-seeking in this situation is equal to when consumers choose brand A at Time 1, then brand B at Time 2, and followed by brand C at Time 3 because changes in choices happened twice (i.e., from A to B and from B to C) (Faison, 1977; Pessemier, 1985). This measure is based on the tenet that a change in one’s choice can increase an individual’s arousal although the change occurs among familiar items (Menon & Kahn, 1995).
Of the three methods mentioned above, the first one has been used to measure consumers’ variety-seeking behavior for a simultaneous choice task because it focuses on consumers’ choice set at one particular point in time. The second and third methods have been employed to measure variety-seeking given a sequential choice task because they concentrate on patterns of choice over time. The current study explores the influence of ad content (sex appeal, scarcity messages, and repetition-variation ads) and consumers’ communication style on variety-seeking. It attends to the consumers’ simultaneous choice task because of the difficulty in designing experiments that examine the long-term effects of ads. Although experiments with long study periods can be designed, extraneous variables are difficult to control. Thus, variety-seeking in this dissertation is operationalized as the number of different items consumers included in their choice set, which corresponds to the first measure described above.

In this dissertation, I focus on simultaneous choice decisions rather than sequential choice decisions. This is because consumers might have a grocery shopping routine that may involve, for example, going to a grocery store once a week rather than every time they wish to consume something. When they do so, they will need to purchase several items in a product category for a week’s supply.

Apart from the quantity of products that consumers choose at the time of selection, other factors that have an impact on variety-seeking behavior are discussed below.

**Determinants of Variety-Seeking**

The magnitude of an individual’s variety-seeking behavior depends upon the product category, personal desire for variety, and contextual factors (Givon, 1984; Hoyer & Ridgway, 1984; McAlister & Pessemier, 1982; Tang & Chin, 2007; Van Trijp, Hoyer, & Inman, 1996).
Product category as a determinant of variety-seeking behavior

Different product categories can lead to variation in consumers’ degree of variety-seeking (Van Trijp et al., 1996). Products that provide consumers with sensory pleasure tend to trigger consumers’ variety-seeking behavior compared to those that provide consumers with functional benefits (Holbrook & Hirschman, 1982). This is because consumers’ variety-seeking is more associated with their hedonic, rather than utilitarian, motives. Hedonic attributes of the products goad consumers to “try them out.” The inventories for these hedonic attributes are more quickly built up and satiated than those of utilitarian attributes when consumers repeatedly consume the products (Hoyer & Ridgway, 1984; Inman, 2001; Kahn & Lehmann, 1991; McAlister, 1982; Rolls, 1986; Van Trijp et al., 1996). For instance, consumers might switch from laundry detergent brand A to brand B because they have become satiated with the scent of brand A even though the two brands serve the same purpose, which is cleaning clothes.

Products that consumers perceive as entailing either higher risk or higher switching cost are more likely to hinder variety-seeking (Deshpande & Hoyer, 1983; Fornell, 1992; Hoyer & Ridgway, 1984; Kahn et al., 1986). Risk, in a variety-seeking context, is the probability that consumers experience unfavorable financial, functional, or psychological consequences from their choice (Mitchell, 1999). The risk is a chance that the selected alternative might not adequately satisfy consumers (Deshpande & Hoyer, 1983; Van Trijp et al., 1996). Switching cost refers to the monetary and nonmonetary costs consumers incur when they switch from one product to another (Porter, 1998). Consumers tend to seek greater variety in products that are nondurable, and for which prices are relatively low because they can replace their unsatisfying choices with new ones in a comparatively short period of time (Deshpande & Hoyer, 1983; Van Trijp et al., 1996). As the price of products increases, adverse impacts on consumers’ budget and
subsequent consumption grow higher, discouraging consumers from switching from one product to another (Deshpande & Hoyer, 1983; Fornell, 1992; Hoyer & Ridgway, 1984; Kahn et al., 1986).

Examples of products for which consumers generally seek variety are fast-moving consumer goods (FMCG), those that are sold quickly at a relatively low price, such as soft drinks and snacks. Consumers tend to feel satiated and are easily bored with these products because they see small differences among the alternatives they frequently purchase (Van Trijp et al., 1996). Shukla (2004) administered a questionnaire to Indian consumers asking about their brand switching behavior and product involvement. The results showed that consumers apply different criteria for high-versus low-price products when they decide to switch. Indian consumers indicated they are not likely to change unless they are concerned about product quality and the attractiveness of high-price products such as cars and television sets. In contrast, respondents expressed readiness to change brands for variety’s sake when it comes to low-price products such as bathroom soap, hair oil, and ice cream.

*Personal intrinsic desire for variety as determinants of variety-seeking behavior*

The extent to which consumers seek variety in products vary depending on their inherent desire for variety (Baumgartner & Steenkamp, 1996; Givon, 1984). Scholars have categorized the change owing to personal intrinsic desire for variety as “true variety-seeking behavior” because changes in consumers’ product choices occur independent of exogenous variables such as problems in consumers’ current options, the needs of household members, and the functional superiority of alternatives (Berne et al., 2001; McAlister & Pessemier, 1982). Consumers with higher intrinsic desire for variety are more likely to engage in variety-seeking and are less likely to stay with a given product or brand (Van Trijp et al., 1996). They also tend to perceive more
differences among options, to be more susceptible to marketing promotions, and to choose
generic brands than those with lower intrinsic desire for variety (Ailawadi, Neslin, & Gedenk,
2001; Desai & Trivedi, 2014; Herstein & Tifferet, 2007).

The intrinsic desire for variety is intimately related to the OSL concept although they are
not the same. While the intrinsic desire for variety covers personal preferences to switching from
among products, OSL refers more broadly to individual preferences for changes in experiences
and choices, among others. OSL can be viewed as a personality trait or an individual’s tendency
to exhibit variety-seeking. It varies across consumers. Consumers with high OSL show a
stronger desire to seek variety in their choice, to explore new environments, to be aware of
circumstances, are easily bored, and are more willing to take the risk that goes with acquiring
new products compared to those with low OSL. This is so because they demand greater arousal.
High OSL consumers have been found to take significantly less time and search for less
information before they decide to try new products (Menon & Kahn, 1995; Mittelstaedt,
Grossbart, Curtis, & Devere, 1976; Steenkamp & Baumgartner, 1992; Van Trijp et al., 1996).

*Contextual factors as determinants of variety-seeking behavior*

The intensity of variety-seeking is also driven by contextual factors, especially the
presence of visual cues in the communication environment (e.g., Maimaran & Wheeler, 2008;
Roehm & Roehm, 2010; Simonson & Winer, 1992). Consumers tend to perceive more options
when products are presented visually rather than verbally because images allow individuals to
readily compare product attributes (Holbrook & Moore, 1981; Townsend & Kahn, 2014; Veryzer
& Hatchinson, 1998). Thus, consumers may be primed to increase or decrease variety-seeking by
the visual context.
To study the impact of visual product display on variety-seeking behavior, Roehm and Roehm (2010) conducted a series of experiments comparing participants’ ten successive choices across three levels of packaging uniformity. In the high uniformity condition, three brands within the same product category differed only in the color of the package label. Package shape and the typeface used were consistent across the three brands. In the moderate uniformity condition, label color and package shape varied across the three competitors in the category. Only the typeface remained the same. In the low uniformity condition, label color, package shape, and typeface were different for all three brands. Participants rated the packaging novelty and the complexity after the tenth shopping trip. The findings showed that different levels of package uniformity provided different levels of arousal, leading to varying degrees of variety-seeking.

The extent to which consumers engage in variety-seeking depends on other sources of arousal within a given circumstance (Menon & Kahn, 1995). For example, exposure to homogenous packages of a particular product class on the grocery shelf can increase consumers’ tendency to seek variety than exposure to heterogeneous packages. This is because the visual uniformity elicits lower arousal, leading consumers to seek greater variety to be aroused. Conversely, exposure to a display of dissimilar items creates incongruence among them as well as perceptions of novelty and complexity. These feelings create higher arousal and thus discourage variety-seeking activity (Roehm & Roehm, 2010). Analogous to these findings, repetition-variation in advertising presentation should arouse consumers with the changes in ads. Therefore, this strategy should reduce consumers’ variety-seeking behavior. Scarcity messages should decrease consumers’ arousal because the messages induce product desirability that would trigger variety-seeking. Sex appeal in ads arouses consumers, which will depress variety seeking.
In sum, this chapter reviewed the literature on optimum stimulation theory (OSL), repetition-variation in advertising presentation, the impact of scarcity messages, sex appeal in advertising, communication style, and variety-seeking. The three advertising strategies that are expected to cause consumers’ arousal are repetition-variation in advertising presentation; the use of scarcity messages; and the deployment of sex appeal were then described. Subsequently, literature on the two types of communication style (high- and low-context), the differences between the two styles in terms of pattern of thoughts, information processing, and preference for ads were discussed. The relationship between consumers’ communication style and a competitive advertising context was proposed. Lastly, a review of the literature on variety-seeking was offered. Aspects of variety-seeking, the optimum stimulation level (OSL) theory, three major determinants of variety-seeking (i.e., product category, personal intrinsic desire for variety, and contextual factors), and measures of variety-seeking behavior were explained and discussed.

The objective of this dissertation is to explore how consumers’ communication style interact with each of the three advertising strategies in a competitive advertising environment and, in turn, influence consumers’ attitudes, purchase intention, and variety-seeking. The next chapter discusses the relationships among these concepts. The hypotheses are presented, and the findings of the three studies conducted to test the hypotheses are reported.
Overview of Studies

As mentioned in Chapter 2, consumers with LC and HC communication styles employ different approaches to process incoming messages. While consumers with LC communication style tend to be context-independent and to focus on specific attributes of messages when they process an ad message, those with HC communication style tend to be context-dependent and to concentrate on both messages and other cues within the messages. Consumers with HC communication style are more likely to find an association between the message and its context when they process information (Hall, 1976, 2000; Masuda & Nisbett, 2001; Nisbett et al., 2001). This suggests that when exposed to advertising messages, consumers with a high communication style look not only at ad messages, but also consider the ad context. The three studies were conducted in order to investigate the impact of repetition-variation in advertising presentation, scarcity messages, and sex appeal on arousal that the ads trigger. The influence of these advertising strategies in a competitive advertising context and consumers’ communication style on attitudes, purchase intention, and consumers’ variety-seeking behavior was also explored.

Advertising has become an integral part of consumers’ lives. Advertisers have placed ads on every outlet to which their potential consumers might be exposed. They typically place ads in context that relates well to the products they are trying to sell following research findings suggesting that congruity between an ad and its context can enhance ad recognition (Zanjani, Diamond, & Chan, 2011). This practice contributes to a competitive environment in which ads vie for limited space. It is highly likely that ads of different brands for the same type of product are positioned close to each other. For example, ads for different brands of cosmetics might
appear on the same beauty webpage. Because this situation happens regularly, this dissertation focuses on the effectiveness of ads in a competitive advertising environment. I investigated the influence of three advertising strategies frequently used specifically when ads using one of these strategies were placed in a competitive environment. These strategies are hypothesized to influence consumers’ levels of arousal, which in turn, affect their variety-seeking behavior.

Although it has been surmised that advertising plays an important role in consumers’ variety-seeking behavior, there is no empirical evidence to support this proposition. The purpose of this dissertation is to demonstrate how consumers’ communication style and the three types of ad strategies affect consumers’ attitudes, purchase intention, and variety-seeking behavior when the ads are shown in a competitive advertising context.

A series of experiments was conducted to demonstrate the relationships of the variables mentioned above. Study 1 explored the interactive and main effects of repetition-variation advertising presentation strategy and consumers’ communication style in ads placed in a competitive context. Study 2 investigated the interaction and main effects of scarcity messages and consumers’ communication style in ads that were placed in a competitive context. Study 3 examined the interactive and main effects of sex appeal and consumers’ communication style in ads that were placed in a competitive context. Attitude toward the ads, attitude toward the brands, and attitude toward the advertised products, purchase intention, and variety-seeking were the dependent variables in these three studies. It is also important to note that ad persuasiveness in the three studies refers to the overall attitudes and purchase intention of all ads in the advertising environment instead of an individual ad. The competitive advertising context is of interest in this dissertation because consumers are generally exposed to ads in a competitive environment rather than in a noncompetitive environment in their everyday life.
The first study explored a repetition-variation in advertising presentation. This strategy is frequently employed by advertisers to reduce consumers’ boredom and satiation from overexposure to a single ad. It is expected to provide consumers with arousal via changes in ad presentation.

**Study 1: The influence of consumers’ communication style and repetition-variation in advertising presentation on attitudes, purchase intention, and variety-seeking**

The objectives of study 1 were to verify the effectiveness of the use of repetition-variation in which different versions of ads for a single product are presented in a competitive advertising environment, and to examine the influence of consumers’ communication style on the three dependent variables. Previous research has indicated that greater exposure to a particular ad results in more favorable responses toward the ad and the advertised product until the continuous repeated exposure reaches a certain point in which consumers become bored and irritated. They consequently pay less attention to the ad and start developing a negative attitude toward the ad and the advertised product (Appel, 1971; Calder & Sternthal, 1980). This is because the high level of repeated exposure to the same ad provides an opportunity for consumers to elaborate on ad content as well as to develop arguments against the ad messages (Petty & Cacioppo, 1979). To prevent this from happening and to refresh consumers’ perception of the ad, advertisers may use different versions of ads for a single advertised product or present different ad claims about product attributes (Burnkrant & Unnava, 1987; Schumann & Clemons, 1989; Smith & Hunt, 1978). Consumers show a greater preference for varied ad claims about product attributes than non-varied ad claims (Smith & Hunt, 1978). Varied executions of an ad have been found to help consumers form multiple retrieval routes in memory resulting in better
recall, heightened attention to the ad, and more positive attitudes toward the advertised product (Schumann et al., 1990; Unnava & Burnkrant, 1991).

The context in which the ad is presented has been found to foster one of two types of elaboration. Item-specific elaboration occurs when consumers focus on specific attributes of ads. This type of elaboration is induced when there are ads for unrelated or dissimilar product categories. It makes the distinguishing features or benefits of the advertised product more salient. Relational elaboration occurs when consumers focus on the similarities of ad content and the association among ad attributes. This type of elaboration prompts consumers to group individual ads to the category they belong. For this reason, it makes theme and category information salient. Relational elaboration is invoked when there are ads for multiple brands that share membership in a common set of product categories (Malaviya et al., 1996; Malaviya, Meyers-Levy, & Sternthal, 1999; Meyers-Levy, 1991). From this perspective, in a competitive advertising environment where ads using the same strategy for competing brands for the same product category are presented together, varied ad repetition should encourage item-specific elaboration because consumers’ attention will be drawn to specific attributes of each advertised product, making the distinctiveness of each product more pronounced. On the other hand, simple repetition should promote relational elaboration because consumers’ attention is drawn to the shared features of the advertised products making product category more salient and helping the consumer associate the ads with the surrounding context (Malaviya et al., 1999; Meyers-Levy & Sternthal, 1991; Yoo, Gilliland, & Donthu, 1994).

Because consumers with low-context communication are more likely to pay attention to specific information independent from the context and to engage in item-specific processing (Gudykunst & Nishida, 1986; Hall, 1976; Ting-Toomey, 1985; Wang, 2008), repetition with
variation will facilitate their information processing resulting in greater ad effectiveness. On the contrary, consumers with a high-context communication style, who allocate their attention to both message and message context (Gudykunst & Nishida, 1986; Wang, 2008), should prefer ads with non-varied executions because repetition facilitates relational elaboration. Therefore, it is hypothesized that consumers’ communication style and ads with a repetition-variation presentation will have an interaction effect: lower scores on the communication style scales translates to greater effectiveness of ads with repetition-variation. Higher scores on the communication style scales suggest greater effectiveness of ad with simple repetition as opposed to ads that are repeated with variation.

H1-1: Consumers who score lower on the communication style scale will report more positive attitude toward the ads when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report more positive attitude toward the ads when ads are repeated without variation than with variation.

H1-2: Consumers who score lower on the communication style scale will report more positive attitude toward the brands when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report more positive attitude toward the brands when ads are repeated without variation than with variation.

H1-3: Consumers who score lower on the communication style scale will report more positive attitude toward the advertised products when ads are repeated with variation than without variation. Those who score higher on the communication style scale will
report *more positive attitude toward the advertised products* when ads are repeated without variation than with variation.

H1-4: Consumers who score lower on the communication style scale will report *higher purchase intention* when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report *higher purchase intention* when ads are repeated without variation than with variation.

The literature on variety-seeking postulates that variety-seeking occurs mainly because of consumers’ demand for arousal when their actual arousal is lower than the optimal stimulation level (Raju, 1980; Steenkamp & Baumgartner, 1992). Consumers are motivated to seek alternatives after they have repeatedly consumed a particular product and have reached the point in which such item can no longer arouse them. At this point, they become either bored or satiated (Inman, 2001; McAlister, 1982). Analogous to the tenets of OSL theory, wear-out effects might happen because repeated exposure to a certain ad can generate low levels of arousal, making consumers feel bored and irritated. Given that variety-seeking depends on the level of arousal consumers receive from the environment (Menon & Kahn, 1995), multiple exposures to an ad (i.e., repetition of an ad) should enhance consumers’ propensity to seek variety in products because ad uniformity generates lower arousal. On the contrary, variation in ad executions should reduce consumers’ tendency to seek variety because varied executions of ads elicit higher arousal than uniform ads.

The influence of repetition-variation on variety-seeking behavior would be different among consumers with low- and high-context communication styles owing to how they process advertising messages which impacts the levels of arousal they obtain. Based on the OSL theory, consumers’ variety-seeking behavior is associated with the amount of arousal they derive from
stimuli in the environment (Berlyne, 1960; Menon & Kahn, 1995; Raju, 1980). They will seek less variety when they receive high levels of arousal and will seek more variety when they receive low levels of arousal. The dual elaboration hypothesis postulates that consumers need both item-specific and relational processing to judge the advertised product. Item-specific processing allows consumers to assess specific features of the advertised product, whereas relational processing provides them with a basis for drawing inferences to make comparisons (Malaviya et al., 1996; Malaviya et al., 1999). Along with this hypothesis, Galak, Redden, and Kruger (2009) found that when consumers focus on a particular product, their memory of product consumption is activated, spurring feelings of boredom and satiation. To relieve boredom and satiation, consumers try to recall their experience with other alternatives within the same product category. Galak et al.’s findings (2009) imply that consumers are likely to obtain optimal stimulation when the ads and the context facilitate both types of processing.

When ads are presented with repetition-variation, different aspects of the products are emphasized. When ads are repeated without variation, the product category is highlighted (Meyers-Levy & Sternthal, 1991; Yoo et al., 1994). Consumers with a high-context communication style might obtain lower arousal from ads without variation than from ads with variation because they are more likely to concentrate on the related features of the advertised products. Repetition without variation does not provide new aspects, while varied ad executions offer new perspectives about the products. Thus, those with an HC communication style are prone to seek greater variety after exposure to ads without variation than to the ads with variation. Consumers with LC communication style, on the other hand, might acquire lower arousal from ads with variation than from ads without variation because they tend to focus on
specific attributes of each ad. Varied advertising presentations might make it harder for them to think about other products within the same category.

Therefore, it is hypothesized that consumers’ communication style and ads with repetition-variation will have an interaction effect on variety-seeking: lower scores on the communication style scales suggest greater variety-seeking when repetition-variation is employed than when the same ads are simply repeated. Higher scores the communication style scales mean greater variety-seeking when ads are repeated without variation as opposed to when the same ads are repeated.

H1-5: Consumers who score lower on the communication style scale will seek more variety when ads are repeated with variation than without variation. Those who score higher on the communication style scale will seek more variety when ads are repeated without variation than with variation.

Method

Pilot study to select the product

Variety-seeking literature indicates that consumers are more likely to seek greater variety in hedonic than utilitarian products because they tend to get bored and satiated with hedonic features faster than utilitarian features (Hoyer & Ridgway, 1984; Inman, 2001; Van Trijp, 1995). A pilot study was done to examine consumers’ perception of hedonic and utilitarian attributes of the product used in the main study. Thirty-seven undergraduate students registered in advertising courses in a large public university in the Midwest were recruited. They were exposed to a picture of sticky notes and were asked to indicate their hedonic and utilitarian attitudes based on their responses to Spangenberg et al.’s (1997)
semantic differential scales anchored by the terms “not enjoyable /enjoyable” and “not functional/functional.” The scores for each item ranged from one to seven. Higher scores meant higher perception of hedonic and utilitarian dimensions. A one-sample t-test analysis comparison for the mean difference from the mid-point of the scale (i.e., 4.00) showed that participants perceived hedonic attributes \(M_{\text{hedonic}} = 5.89, SD_{\text{hedonic}} = 1.17, t(36) = 9.81, p < .001, 95\% \text{CI} = [1.50, 2.28]\) and utilitarian attributes \(M_{\text{utilitarian}} = 5.19, SD_{\text{utilitarian}} = 1.54, t(36) = 4.69, p < .001, 95\% \text{CI} = [.67, 1.70]\) significantly different from the mid-point of the scale. Although the product was perceived to be both hedonic and utilitarian, a paired samples t-test showed that the participants perceived hedonic attribute over utilitarian attribute for sticky notes \(M_{\text{hedonic}} = 5.89, SD_{\text{hedonic}} = 1.17\) vs. \(M_{\text{utilitarian}} = 5.19, SD_{\text{utilitarian}} = 1.54, t(36) = 2.49, p < .05\).

**Pilot study to select the article**

A second pilot study was conducted to check if a news article affects arousal level. Forty-four undergraduate students participated in this pilot study. They were asked to read a news article about the impact of sleep deprivation on U.S. adults (Appendix A) because it was related to the participants to some extent but did not related to the advertised products used as stimuli. The news was used as a filler task in the study. Participants rated their arousal level on four items scored on 7-point semantic differential scales anchored by “not stimulating at all/very much stimulating; not fun at all /very much fun; not exciting at all /very much exciting; not novel at all /very much novel.” The scale, which ranged from 1 (low arousal) to 7 (high arousal), was proposed by Etkin and Mogilner (2016). Cronbach’s alpha was .86. A one-sample t-test analysis showed that the average arousal scores did not significantly differ from the mid-point of the scale \(M_{\text{arousal}} = 3.70, SD_{\text{arousal}} = 1.31, t(43)\)
Therefore, the article used in the study did not significantly affect participants’ arousal level.

**Main study**

*Participants and design.* Three hundred and one respondents on Amazon’s Mechanical Turk (MTurk) (41% men, 58% women, and 1% did not opt for gender disclosure) were recruited for the study and were given a small amount of compensation. Their ages ranged from 22 to 75 years ($M=42.20$, $SD=12.75$). Among these participants, 77 percent were White; 7 percent were African-American; 5 percent were Asian; and 11 percent categorized themselves as “other.” The study design was a two-condition (Ad execution: repetition with variation versus repetition without variation) between-participants design. Participants’ communication style was assessed using a self-report on the communication style scale created by Richardson and Smith (2007).

*Stimulus Materials.* Five fictitious brands of sticky notes were used as stimuli in this study (Appendix A). A repetition without variation advertising condition consisted of five fictitious flashing banner ads (one for each brand) created in GIF format. The animation was made up of the same flashing banner ads repeatedly done. For a repetition with variation advertising condition, fifteen fictitious banner ads (three versions for each brand) were created in GIF format. The animation consisted of flashing banner ads rotating among the three versions. In both conditions, each version of ad was shown approximately 10 seconds before the rotation in order to make sure that participants had enough time to see each ad. Ads for each brand were shown separately between the paragraphs of a news article in a randomized presentation sequence. Prior research suggested that attitude response seems to peak at approximately three exposures (e.g., Calder & Sternthal, 1980; Gorn & Goldberg, 1980).
**Experimental procedure.** The data collection process was done through Amazon MTurk service with the approval of the Institution of Review Board (IRB) at the University of Illinois at Urbana-Champaign. MTurk is an online survey service operated by Amazon.com. Previous research indicates that MTurk samples are more diverse in terms of demographic distribution compared to college student samples. Data collected through MTurk has been found to be as reliable and valid as data collected through traditional methods (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013). After participants read an informed consent form and indicated their willingness to participate in the study, they were randomly assigned to one of two experimental conditions—those who viewed ads with repetition-variation (the treatment group) or those who viewed ads repeatedly without repetition-variation (the control group). They were informed that the purpose of the study was to explore the influence of online news and banner ads.

The participants in both conditions were asked to read a news story. As they went through the news article, they were exposed to animated ad banners, one brand at a time. The display order of ads for the five brands was randomized. They read the article and clicked on a “Next Page” button at the bottom of each page at their own pace. After the ads for each brand had been shown, the participants rated their attitude toward the ads, attitude toward the brand, attitude toward the advertised products, and their purchase intention. At the end of the article, the participants were asked to choose five items among the brands displayed in the ads. They were informed that they could choose any products in combinations of five. These could be products of the same brand or different brands for all five items. Consumers’ variety-seeking behavior was measured as the number of items the participants included in their choices (Simonson, 1990).
Then, the participants completed a series of questions about their context communication style and their demographic characteristics. They were given ample time to complete the whole questionnaire. Lastly, they were thanked for their participation.

**Measures.**

*Attitude toward the ad.* Participants’ attitude toward the ad was measured with the question, “How do you feel about the advertisement?” The participants evaluated each ad on two seven-point semantic differential items anchored with the adjectives: bad/good and unfavorable/favorable, where higher numbers indicated more positive attitudes (Muehling & McCann, 1993). Scores on the two scales were summed and averaged to create an attitude toward the ad index. The internal consistency reliability for each ad was $\alpha_{\text{Hipost}}=.92$, $\alpha_{\text{MeMoire}} = .91$, $\alpha_{\text{Posta}}=.91$, $\alpha_{\text{Stickit}} = .89$, and $\alpha_{\text{Styx}} = .91$.

*Attitude toward the brand.* Participants’ attitude toward the brand was captured by the question, “How do you feel about the brand?” Participants rated their attitude toward each brand on two items (unappealing/appealing; negative/positive) on seven-point scales (Spears & Singh, 2004) in which higher scores represented more positive attitude toward the brand. An index of attitude toward each brand was established by summarizing and averaging the scores on the two items. Cronbach’s alpha for each brand was $\alpha_{\text{Hipost}} = .91$, $\alpha_{\text{MeMoire}} = .93$, $\alpha_{\text{Posta}}=.92$, $\alpha_{\text{Stickit}} = .94$, and $\alpha_{\text{Styx}} = .91$.

*Attitude toward the advertised product.* Attitude toward the advertised product was measured on a 1 (unlikable) to 7 (likable) scale (Spears & Singh, 2004).

*Purchase intention.* Participants answered the question, “How likely would you buy the product?” by indicating their intention to purchase on a 7-point bipolar scale ranging from 1 (very unlikely) to 7 (very likely).
Arousal. Participants rated the extent to which they were aroused on two items scored on a seven-point bipolar scale anchored by “not at all” (1) to “very much” (2). The measure was adopted from Mehrabian and Russell’s (1974) emotional arousal measure. Cronbach’s alpha for the two items was .75.

Variety-seeking. The number of different product choices (i.e., brands) that participants had selected was counted to form a variety-seeking index. The participants were asked, “If you were offered to receive five items of the advertised sticky notes, please indicate the number of advertised products you would like to receive. You can choose any item in combinations of five (i.e., 5 of brand A, or 3 of brand A + 2 of brand B, or 1 for all five brands).” The measure was used in prior studies on variety-seeking in a simultaneous choice task (e.g., Shen & Wyer, 2010; Simonson, 1990; Van Trijp, 1994).

Communication style. Participants’ communication style was assessed using Richardson and Smith’s (2007) individual-level high- and low-context communication scale. The measure consisted of twelve items on a seven-point Likert-type scale (1 = strongly disagree; 7 = strongly agree) such as “A listener should understand the intent of the speaker from the way the speaker talks” and “People understand many things that are left unsaid” (Appendix A). Cronbach’s alpha among these twelve items was .64. To increase the reliability of the measure, three items that did not seem conceptually related to the others were removed. These three items included “In general, it is more important to understand my inner self than to be famous, powerful or wealthy,” “I often feel left out of things going on around me,” and “It is not wise to sacrifice one’s interests for the benefits of the organization he/she belongs.” Cronbach’s alpha among the nine items was increased to .69.
Scores on the nine questions were summed and averaged to obtain a single value. George and Mallery (2003) suggest that a Cronbach’s alpha ≥ .9 is excellent; .9 > Cronbach’s alpha ≥ .7 – Good; .7 > Cronbach’s alpha ≥ .6 – Acceptable; .6 > Cronbach’s alpha ≥ .5 – Poor; Cronbach’s alpha < .5 – Unacceptable. Scores on the nine questions were summed and averaged to create a communication style index. Higher scores indicate a more high-context communication style.

Results

SPSS 21.0 was used to perform statistical analyses. Effects were considered statistically significant at a p-value less than or equal to .05. To test the hypotheses, repetition-variation in advertising presentation was treated as a dichotomous variable with a dummy code “1” for the ad with repetition-variation condition and “0” for the repetitive ads without variation condition. Consumers’ style of communication was treated as a continuous variable and was centered (i.e., subtracting each participant’s score by the mean score of all participants) before including it in the regression analysis to investigate the main and interaction effects on attitudes, purchase intention, and variety-seeking (Aiken & West, 1991). The standardized coefficients (β) for interaction terms were calculated from the multiplication of the standardized predictors (Friedrich, 1982).

Attitude toward the ads, attitude toward the brands, attitude toward the advertised products and purchase intention. It was hypothesized that consumers with higher scores on communication style scales would report more positive attitude toward the ads, toward the brands, toward the advertised products, and higher purchase intention when presented with repetition-variation ads than with ads repeated without variation. Regression analyses revealed that there were no significant interaction effects between repetition-variation in advertising and communication
style on attitude toward the ads ($\beta = -0.11$, $t(297) = -1.47$, $p = \text{n.s.}$) (Figure 3.1), attitude toward the brands ($\beta = -0.06$, $t(297) = -0.82$, $p = \text{n.s.}$) (Figure 3.2), attitude toward the advertised products ($\beta = -0.07$, $t(297) = -0.91$, $p = \text{n.s.}$) (Figure 3.3), and purchase intention ($\beta = -0.03$, $t(297) = -0.37$, $p = \text{n.s.}$) (Figure 3.4). Hence, H1-1 to H1-4 were not supported.

Figure 3.1: The effect of ad execution and communication style on attitude toward the ads.
Figure 3.2: The effect of ad execution and communication style on attitude toward the brands.

Figure 3.3: The effect of ad execution and communication style on attitude toward the products.
Nevertheless, there was a consistent main effect of communication style on the effectiveness of ads. Consumers’ communication style had a significant influence on attitude toward the ads ($\beta = .31$, $t(299) = 5.67$, $p < .001$), attitude toward the brands ($\beta = .30$, $t(299) = 5.49$, $p < .001$), attitude toward the advertised products ($\beta = .29$, $t(299) = 5.19$, $p < .001$), and purchase intention ($\beta = .30$, $t(299) = 5.48$, $p < .001$). The results suggested that the ads became more effective as consumers had a higher context communication style. Table 3.1 shows descriptive statistics of the four variables by brand.
### Table 3.1: Descriptive statistics of the four variables by brand.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Repetition with variation</th>
<th>Repetition without variation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (N=148)</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Attitude toward the ad</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hipost</td>
<td>3.28</td>
<td>1.53</td>
</tr>
<tr>
<td>MeMoire</td>
<td>3.51</td>
<td>1.55</td>
</tr>
<tr>
<td>Posta</td>
<td>3.76</td>
<td>1.68</td>
</tr>
<tr>
<td>Stickit</td>
<td>3.90</td>
<td>1.62</td>
</tr>
<tr>
<td>Styx</td>
<td>3.40</td>
<td>1.48</td>
</tr>
<tr>
<td><strong>Attitude toward the brand</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hipost</td>
<td>3.44</td>
<td>1.33</td>
</tr>
<tr>
<td>MeMoire</td>
<td>3.73</td>
<td>1.40</td>
</tr>
<tr>
<td>Posta</td>
<td>3.96</td>
<td>1.58</td>
</tr>
<tr>
<td>Stickit</td>
<td>4.09</td>
<td>1.51</td>
</tr>
<tr>
<td>Styx</td>
<td>3.48</td>
<td>1.45</td>
</tr>
<tr>
<td><strong>Attitude toward the product</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hipost</td>
<td>3.39</td>
<td>1.50</td>
</tr>
<tr>
<td>MeMoire</td>
<td>3.49</td>
<td>1.60</td>
</tr>
<tr>
<td>Posta</td>
<td>3.87</td>
<td>1.66</td>
</tr>
<tr>
<td>Stickit</td>
<td>4.05</td>
<td>1.64</td>
</tr>
<tr>
<td>Styx</td>
<td>3.48</td>
<td>1.57</td>
</tr>
<tr>
<td><strong>Purchase intention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hipost</td>
<td>3.29</td>
<td>1.45</td>
</tr>
<tr>
<td>MeMoire</td>
<td>3.39</td>
<td>1.50</td>
</tr>
<tr>
<td>Posta</td>
<td>3.72</td>
<td>1.47</td>
</tr>
<tr>
<td>Stickit</td>
<td>3.97</td>
<td>1.70</td>
</tr>
<tr>
<td>Styx</td>
<td>3.30</td>
<td>1.55</td>
</tr>
</tbody>
</table>
Arousal. A t-test analysis showed that participants who were exposed to ads with repetition-variation ($M_{\text{variation}} = 3.15$, $SD_{\text{variation}} = 1.53$) and those who were exposed to repetitive ads without repetitively did not differ in the amount of arousal they reported ($M_{\text{without variation}} = 2.96$, $SD_{\text{without variation}} = 1.58$, $t(299) = -1.07$, $p = \text{n.s.}$). Although no significant interaction effect between consumers’ communication style and type of advertising presentation was detected ($\beta = -.12$, $t(297) = -1.56$, $p = \text{n.s.}$), a significant main effect of consumers’ communication style was observed ($\beta = .26$, $t(299) = 4.66$, $p < .001$). That is, the higher context the communication style is, the greater arousal consumers’ obtain from the ads.

Variety-seeking. Hypotheses 1-5 proposed that in a competitive advertising environment, consumers’ communication style and repetition-variation in advertising strategy would have an interactive impact on consumers’ variety-seeking behavior. Consumers with lower-context communication style tended to show greater variety-seeking when they were exposed to ads with repetition-variation than when they were exposed to repetitive ads without variation. A regression analysis revealed a significant interactive effect between consumers’ communication style and ad execution ($\beta = -.16$, $t(297) = -1.99$, $p < .05$). Participants who scored lower on communication style scale tended to seek more variety in products when the ads were repeated with variation (Figure 3.5).

There was also a significant effect of consumers’ communication style on variety-seeking in the ad repetition without variation condition ($\beta = .22$, $t(151) = 2.76$, $p < .01$). Participants who scored higher on the communication style scale sought more variety in options when ads were presented with non-variation. However, no significant effect of consumers’ communication style on variety-seeking was found in the ad repetition with variation condition ($\beta = -.02$, $t(146) = -.19$, $p = \text{n.s.}$). Therefore, H1-5 was partially supported.
Figure 3.5: The effect of ad execution and communication style on variety-seeking

Consumers’ variety-seeking behavior was regressed on arousal. The results show a significant effect of arousal on consumers’ variety-seeking behavior ($\beta = .16$, $t(299) = 2.71$, $p < .01$, 95%CI = [.04 , .24]). The higher arousal consumers obtained from the ads, the greater variety consumers included in their product choices.

There was no significant main effect of repetition-variation on attitudes, purchase intention, arousal, and variety-seeking as presented in Table 3.2. Table 3.3 presents the summary of results of Study 1.
Table 3.2: Descriptive statistics of all dependent variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Repetition with variation</th>
<th>Repetition without variation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (N=148)</td>
<td>SD</td>
</tr>
<tr>
<td>Attitude toward the ads</td>
<td>3.57</td>
<td>1.30</td>
</tr>
<tr>
<td>t(299) = 1.16, p = n.s., 95%CI = [-.12, .48]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward the brands</td>
<td>3.74</td>
<td>1.20</td>
</tr>
<tr>
<td>t(299) = 1.20, p = n.s., 95%CI = [-.11, .46]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward the advertised products</td>
<td>3.66</td>
<td>1.26</td>
</tr>
<tr>
<td>t(299) = 1.28, p = n.s., 95%CI = [-.10, .49]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3.54</td>
<td>1.17</td>
</tr>
<tr>
<td>t(299) = 1.10 , p = n.s., 95%CI = [-.12, .46]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arousal</td>
<td>3.15</td>
<td>1.53</td>
</tr>
<tr>
<td>t(299) = 1.07 , p = n.s., 95%CI = [-.54, .16]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variety-seeking</td>
<td>2.70</td>
<td>1.38</td>
</tr>
<tr>
<td>t(299) = -.23 , p = n.s., 95%CI = [-.28, .35]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Table 3.3: Summary of results**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1-1</strong>: Consumers who score lower on the communication style scale will report <em>more positive attitude toward the ads</em> when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report <em>more positive attitude toward the ads</em> when ads are repeated without variation than with variation.</td>
<td>Not supported, <em>p</em> = n.s.</td>
</tr>
<tr>
<td><strong>H1-2</strong>: Consumers who score lower on the communication style scale will report <em>more positive attitude toward the brands</em> when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report <em>more positive attitude toward the brands</em> when ads are repeated without variation than with variation.</td>
<td>Not supported, <em>p</em> = n.s.</td>
</tr>
<tr>
<td><strong>H1-3</strong>: Consumers who score lower on the communication style scale will report <em>more positive attitude toward the advertised products</em> when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report <em>more positive attitude toward the advertised products</em> when ads are repeated without variation than with variation.</td>
<td>Not supported, <em>p</em> = n.s.</td>
</tr>
<tr>
<td><strong>H1-4</strong>: Consumers who score lower on the communication style scale will report <em>higher purchase intention</em> when ads are repeated with variation than without variation. Those who score higher on the communication style scale will report <em>higher purchase intention</em> when ads are repeated without variation than with variation.</td>
<td>Not supported, <em>p</em> = n.s.</td>
</tr>
<tr>
<td><strong>H1-5</strong>: Consumers who score lower on the communication style scale will <em>seek more variety</em> when ads are repeated with variation than without variation. Those who score higher on the communication style scale will <em>seek more variety</em> when ads are repeated without variation than with variation.</td>
<td>Partially supported, <em>p</em> = n.s. <em>p</em> &lt; .01</td>
</tr>
</tbody>
</table>
Discussion

This study was conducted to examine whether consumers’ communication style and ad presentation strategies have an influence on ad effectiveness and variety-seeking behavior. Significant interaction effects between repetition-variation in advertising presentation and communication style on attitudes and purchase intention were not observed. This might be because participants did not perceive much difference among the brands. Although the ads showed their unique themes and the products had unique shape for each brand, the core message of each ad was the utility of sticky notes for various occasions and situations. Future studies should make brand distinction more salient such as showing unique functions for each brand. Researchers might also consider measuring participants’ perception of differences among the brands in order to investigate such effects.

The results of Study 1 reveal that consumers with a low-context communication style tend to report more favorable attitudes and purchase intention when they are exposed to repetitive ads with variation than when they are exposed to repetitive ads without variation. This may be because the advertising context might have induced a specific type of elaboration. Specifically, differences in the advertising context might have invoked item-specific elaboration, whereas similarity might have prompted relational elaboration (Malaviya et al., 1996). Also, Malaviya (2007) found that repetition enhanced the extent of elaboration induced by the ad context and the ad content. If this is the case, repetition without variation should generate relational processing so that consumers with a high-context communication style who tend to concentrate on the relationship between ads and ad context found it easier to process advertising messages. Repetition with variation, on the contrary, should facilitate item-specific processing because variety in ads highlights the unique features of ads and the advertised products. Thus,
consumers with a low-context communication style who tend to focus on specific messages might find it easier to process information resulting in greater ad effectiveness.

In terms of the effects on variety-seeking behavior, the results show a significant interactive effect between consumers’ communication style and repetition-variation in advertising presentation. Consumers with a low-context communication style are likely to seek greater variety in products after they were exposed to repeated ads with variation than to ads without variation. Also, consumers with a high-context communication style are likely to seek greater variety in products after they were exposed to repeated ads without variation than to repeated ads with variation. The results support the proposition that consumers might obtain OSL when both types of information processing are prompted. These results are consistent with those of Malaviya et al. (1996) who found that consumers showed more favorable evaluations of the advertised product when the ad and its context together trigger item-specific and relational processing. It is noteworthy that variety-seeking and ad persuasiveness occur through different underlying mechanisms. Ad persuasiveness in this study refers to the overall evaluation of ads rather than an evaluation of a particular ad. However, consumers need to evaluate the advertised product at a deeper level. Therefore, both types of elaboration are necessary in the selection process.

This study also provided preliminary results on the influence of consumers’ communication style on the effectiveness of ads in a competitive advertising context when brands and products are unfamiliar to consumers. Consumers with high-context communication reported more favorable attitude toward the ads, toward the brands, toward the advertised products, and purchase intentions than those with a low-context communication style. One explanation might be that consumers with a high-context communication style tend to elaborate
on advertising messages using relational processing, in which their attention is paid to the ads and the ad context as a whole (Hall, 1976; Masuda & Nisbett, 2001). The competitive advertising environment provides them with the referent with which to evaluate the ads, brands, and advertised products and to make a decision (Malaviya, 2007). However, this dissertation applies the principle from consumers’ cognitive processing style to explain how consumers with low-and high-context communication style might process incoming information. The explanation is somewhat speculative because it did not measure consumers’ processing style. Therefore, further testing on consumers’ communication style and type of elaboration is imperative.

The next study explores another type of advertising strategy frequently employed by advertisers to increase product desirability and sales revenue (Cialdini, 2008)—the use of scarcity messages in advertising. This strategy is hypothesized to impact consumers’ arousal level by inducing feelings of uncertainty about people’s ability to obtain the advertising products resulting higher product desirability. Product desirability drives consumers to increase their arousal through variety-seeking.
Study 2: The influence of consumers’ communication style and scarcity messages on attitudes, purchase intention, and variety-seeking

The primary purpose of Study 2 was to investigate the influence of consumers’ communication style and the use of scarcity messages on attitude toward the ads, attitude toward the advertised products, purchase intention, and variety-seeking under the condition that ads with a scarcity message for different brands of the same product were presented along with each other.

Scarcity messages inform consumers that the product will no longer be available at a certain point in time (Cialdini, 2008; Reichert et al. (2001). The message persuades consumers by instigating feelings of deprivation and the lack of freedom to obtain the advertised product, making them sensitive to such product (Brehm, 1972; Lynn, 1991, 1992). Consumers tend to enhance the value of a scarce product and register greater demand for it (Cialdini, 2008). They are then motivated to select the product based on perceived scarcity (Rhoads & Cialdini, 2002; Worchel et al., 1975). Although there is evidence that scarcity messages can trigger product desirability, no empirical study has been done on how people with different communication styles respond to ads with a scarcity message, especially when these ads are presented together. The effect may not be uniform among consumers with different communication styles.

Consumers with a low-context communication style, who are more sensitive to explicit and direct messages in advertising, tend to concentrate more on specific attributes of the advertising messages. On the contrary, those with a high-context communication style, who are more sensitive to implicit and indirect messages in advertising, tend to focus more on the overall advertising content. They are also likely to make connections among the ads they have seen (Hall, 1976; Masuda & Nisbett, 2001; Nisbett et al., 2001). Differences in information
processing patterns should lead to different reactions to scarcity messages embedded in the ads. Because the scarcity messages explicitly indicate that the advertised product will be available only for a restricted time and quantity, this advertising strategy should be more effective for consumers with lower-context communication style owing to its fit with how they process information.

However, the advantage of scarcity messages on consumers with a low-context communication style as opposed to those with higher-context communication style might be reduced when the ads with scarcity messages are placed closely to each other. This is because the competitive advertising context facilitates relational elaboration (Malaviya et al., 1996). Hence, consumers with a high-context communication style who tend to process ad messages holistically will benefit from the ad context compared to those with a low-context communication style. Moreover, consumers with a low-context communication style might be overwhelmed as all ads use scarcity messages, making it harder for them to judge the ads. Therefore, it is hypothesized that consumers’ communication style and ads with scarcity messages will interact, such that those with a low communication style will find ads with scarcity messages more effected than ads without scarcity messages.

H2-1: Consumers who score lower on the communication style scale will report less positive attitude toward the ads when ads are presented with a scarcity message and report more positive attitude toward the ads when ads are presented without a scarcity message compared to those who score higher on the communication style scale.

H2-2: Consumers who score lower on the communication style scale will report less positive attitude toward the brands when ads are presented with a scarcity message and
report *more positive attitude toward the brands* when ads are presented without a scarcity message compared to those who score higher on the communication style scale.

H2-3: Consumers who score lower on the communication style scale will report *less positive attitude toward the advertised products* when ads are presented with a scarcity message and report *more positive attitude toward the advertised products* when ads are presented without a scarcity message compared to those who score higher on the communication style scale.

H2-4: Consumers who score lower on the communication style scale will report *less purchase intention* when ads are presented with a scarcity message and report *more purchase intention* when ads are presented without a scarcity message compared to those who score higher on the communication style scale.

Previous research revealed that when time limitation is used in sales promotions, consumers are prone to have a more favorable attitude toward the deal, to increase their purchase volume, to accelerate their purchase, and to switch brands (Aggarwal & Vaidyanathan, 2003; Inman & McAlister, 1994). Empirical studies have supported the claim that scarcity messages play an important role in enhancing consumers’ perceived product value, concern about product availability, and sense of urgency that, in turn, lead to an increase in the product’s desirability (Cialdini, 2008; Lynn, 1992; Worchel et al., 1975). Because a scarcity message induces feelings of uncertainty and product desirability, and increases the perceived value of advertised products, the message might trigger consumers’ demand for arousal. Building upon the OSL theory that consumers seek variety in order to increase their arousal (Raju, 1980), consumers will seek more variety in products when these products are advertised with a scarcity message than without a scarcity message.
Consumers with a high-context communication style tend associate the ads with the environment, while those with a low-context communication style are more likely to pay attention to the specific attributes of individual ads (Masuda & Nisbett, 2001; Nisbett et al., 2001). When a scarcity message is embedded in ads, consumers with a low-context communication style are likely to focus on the scarcity message because such a message is explicit and direct. As such, consumers with a high-context communication style will feel less uncertain about obtaining the advertised products resulting in less product desirability. A product desirability might be triggered by the scarcity message embedded in the ads. These consumers will thus seek less variety in choices. Therefore, consumers with a high-context communication style are hypothesized to seek less variety in products than consumers with a high-context communication style when they are exposed to ads with a scarcity message versus ads without a scarcity message.

H2-5: Consumers who score lower on the communication style scale will seek more variety in products when ads are presented with a scarcity message and seek less variety in products when ads are presented without a scarcity message compared to those who score higher on the communication style scale.

Method

Pilot study to select the product

A pilot study was conducted to examine consumers’ perception of products used in the main study. According to the variety-seeking literature, variety-seeking behavior can be determined by product-related characteristics (Hoyer & Ridgway, 1984). Products containing hedonic attributes (i.e., elements that interact with consumers’ senses) tend to trigger boredom and satiation faster than products containing utilitarian attributes (Inman,
Thirty-seven undergraduates from a large public university in the Midwest were shown a picture of candies and were asked to rate whether they perceived hedonic or utilitarian attributes of the product. Consumer perceptions of hedonic and utilitarian product attitudes were measured using two seven-point semantic differential scales anchored by the terms “not enjoyable (=1)/enjoyable (=7)” and “not functional (=1)/functional (=7),” respectively (Spangenberg, Voss, & Crowley, 1997). The results of one-sample t-tests indicated that participants’ perception of a product’s hedonic attribute was different from the mid-point of the scale ($M_{\text{hedonic}} = 5.81$, $SD_{\text{hedonic}} = 1.53$, $t(36) = 7.23$, $p < .001$, $95\% \text{CI} = [1.30, 2.32]$). Their perception of the utilitarian attribute of candies also differed from the mid-point of the scale ($M_{\text{utilitarian}} = 4.84$, $SD_{\text{utilitarian}} = 1.63$, $t(36) = 3.14$, $p < .05$, $95\% \text{CI} = [.30, 1.38]$). A paired sample t-test between means of perceived hedonic and utilitarian attributes indicated that participants were more likely to perceive candies as a hedonic product than a utilitarian product ($M_{\text{hedonic}} = 5.81$, $SD_{\text{hedonic}} = 1.53$ vs. $M_{\text{utilitarian}} = 4.84$, $SD_{\text{utilitarian}} = 1.63$, $t(36) = 2.93$, $p < .01$).

**Pilot study to select the article**

The second pilot study was done to ensure that a news item has no influence on consumers’ arousal. Forty-four undergraduates from a large public university in the Midwest were recruited to take part in the pilot study. To measure their level of arousal, they read a news article about the importance of handwriting (Appendix B) and were asked to rate their response on four seven-point semantic differential scales anchored by “not stimulating at all/very much stimulating; not fun at all /very much fun; not exciting at all /very much exciting; not novel at all /very much novel” (Cronbach’s Alpha = .74). Higher scores indicated greater positive arousal responses (Etkin & Mogilner, 2016). A univariate t-test analysis showed that the average arousal
scores were not different from the middle point \((M_{\text{arousal}} = 3.70, SD_{\text{arousal}} = .97, t(43) = 2.07, p = .05, 95\%\text{CI } = [-.60, -.01])\). Hence, the article did not have an impact on stimulation.

**Pre-test for the influence of a scarcity message on product desirability**

A pre-test was performed to investigate the effect of the scarcity message on product desirability. Thirty-seven undergraduates registered in advertising courses in a large public university in the Midwest were recruited. They were randomly assigned to one of the two conditions (i.e., those who saw an ad with or without a scarcity message). Participants subsequently responded to the question, “How much would you like to have this product?” on a seven-point semantic differential scale ranging from “not at all (1)” to “very much (7).” A t-test analysis revealed no significant difference in product desirability when the ad was presented with a scarcity message \((M_{\text{scarcity}} = 3.43, SD_{\text{scarcity}} = 1.81)\) and when the ad was presented without a scarcity message \((M_{\text{without scarcity}} = 2.43, SD_{\text{without scarcity}} = 1.34, t(35) = 1.80, p = \text{n.s.})\).

**Main study**

*Participants and design.* A total of three hundred and one participants on Amazon’s Mechanical Turk (MTurk) participated in the study. They received a small amount of monetary compensation in exchange for their participation. Of these participants, 137 were males (46 percent), and 160 were females (53 percent). Four of them did not wish to disclose their demographic information. Participants’ age ranged from 20 – 75 years \((M = 41.14, SD = 12.88)\). The majority were White (79%), followed by Asian (6.7%), African-American (6.3%), Hispanic (5.7%), and others (2.3%). The study was a two-level (Ad: with a scarcity message versus without a scarcity message) between-participants design. Participants’ communication style was measured through a context communication style questionnaire.
Stimulus materials. Five banner ads featuring fictitious candy brands were used in the study. Candies were chosen for the current study because they are low-involvement products two which consumers were likely to devote less time and effort to determine their choices. These five ads were randomly arranged in order. The difference between the two conditions was the messages indicating that the advertised products were available only for a limited time. Participants in the scarcity message condition were exposed to the advertisements embedded with the phrases “Limited time offer.” This phrase did not appear in the ads shown in the other condition.

Experimental procedure. The procedure for Study 2 was similar to that of Study 1. The IRB at the University of Illinois at Urbana-Champaign approved the study protocol prior to data collection. Data were collected through the Qualtrics survey software, which was posted on MTurk. People were instructed to participate in the study using their personal computer. Those who decided to participate in the study clicked on a link that navigated them to the online informed consent form where they read and indicated their willingness to take part in the study by clicking the “I Accept” button.

The participants then were randomly assigned to one of two experimental conditions—those who viewed ads that contain scarcity messages (treatment group) or those who saw ads without scarcity messages (control group) through a random computer assignment (Appendix B). The participants in both conditions were informed that the purpose of the study was to determine the impact of online news and banner ads. They were asked to read a piece of news about the importance of handwriting. As they do so, they were exposed to five banner ads, one at a time. Each of ad banners was embedded between paragraphs of the news. The display order of the five ads was randomized. The participants could click on a “Next” button at the bottom of each page at their own pace.
Immediately after each ad banner was shown, the participants answered questions about their attitudes toward the ad, toward the brand, and toward the advertised product, perceived advertising context, as well as their purchase intention. No questions about the news were asked. At the end of the news item, participants were provided with a list of advertised products. They were asked to select five items from the five advertised candy brands. They were informed that they could choose either the same brand for their five items or any combination of brands to select five candies. The number of different items the participants selected was later used to form a variety-seeking index.

Next, the participants completed a series of questions measuring their communication style using the existing scales developed by Richardson and Smith (2007). They also were asked for demographic information. They had ample of time to complete the questionnaire. Toward the end of the questionnaire, participants were asked to guess the purpose of the study. Finally, they were thanked for participating in the study.

**Measures.**

*Communication style.* Participants’ communication style was measured using the same scale used in Study 1 (Appendix B). Cronbach’s alpha among the twelve items was .63. The three items that did not seem conceptually related to the others were removed in order to increase the reliability of the measure. These items comprised “In general, it is more important to understand my inner self than to be famous, powerful or wealthy,” “I often feel left out of things going on around me,” and “It is not wise to sacrifice one’s interests for the benefits of the organization he/she belongs.” Cronbach’s alpha for the nine items was .66.
**Attitude toward the ad.** Attitude toward the ad was captured with the same measures employed in Study 1. The internal consistency reliability of the scale for each ad was investigated using Cronbach’s alpha ($\alpha_{\text{Pop Craze}} = .94$, $\alpha_{\text{Rainbow}} = .91$, $\alpha_{\text{Soothy Candy}} = .92$, $\alpha_{\text{Sweet Gems}} = .89$, $\alpha_{\text{Tasty Lolly}} = .94$).

**Attitude toward the brand.** To capture participants’ attitude toward the brand, they were asked, “How do you feel about the brand?” Participants answered the two seven-point semantic differential scales (1 = unappealing/negative; 7 = appealing/positive). The scale was adopted from Spears and Singh’s (2004) attitude toward the brand scale. An index of attitude toward each brand was created by summarizing and averaging scores on the two items. Cronbach’s alpha was calculated to examine the internal consistency of the scale ($\alpha_{\text{Pop Craze}} = .89$, $\alpha_{\text{Rainbow}} = .94$, $\alpha_{\text{Soothy Candy}} = .89$, $\alpha_{\text{Sweet Gems}} = .91$, $\alpha_{\text{Tasty Lolly}} = .94$).

**Attitude toward the advertised product.** Participants were asked to rate their attitude toward each advertised product on a seven-point scale, where 1 = unlikable and 7 = likable, adapted from Spears and Singh’s (2004) attitude toward the brand measures.

**Purchase intention.** Participants’ intention to purchase was captured by the question, “How likely would you buy the product or brand?” The query was answered on a seven-point bipolar scale anchored by “very unlikely” (1) and “very likely” (7).

**Arousal.** Arousal was measured by using two items (stimulated/aroused) adopted from the emotional arousal measure (Mehrabian & Russell, 1974). The participants reported whether they were stimulated and aroused after they had seen all ads using a seven-point scale ranging from “not at all” (1) to “very much” (7). Cronbach’s alpha for the nine items was .72.

**Variety-seeking.** Consumers’ variety-seeking index was formed by counting the number of different product choices (i.e., brands) that participants had selected. The instruction asked, “If you were offered to receive five items of the advertised candies, please indicate the number of
advertised products you would like to receive. You can choose any item in combinations of five
(i.e., 5 of brand A, or 3 of brand A + 2 of brand B, or 1 for all five brands).” This measure has
been employed in previous studies (e.g. Shen & Wyer, 2010; Simonson, 1990; Van Trijp, 1994).

Results

To test the hypotheses, a scarcity message was treated as a dichotomous variable with a
dummy code “1” for ads with a scarcity message condition and “0” for ads without a scarcity
message condition. Consumers’ style of communication was treated as a continuous variable and
was centered before including it in the regression analysis to investigate the main and interaction
effects on attitudes, purchase intention, and variety-seeking (Aiken & West, 1991).

Attitude toward the ads, attitude toward the brands, attitude toward the advertised products, and
purchase intention. It was hypothesized that consumers with lower scores on communication
style scale (i.e., low-context communication style) would have a less positive attitude toward the
ads, toward the brands, toward the advertised products, and lower purchase intention when ads
are presented with a scarcity message than without one. Regression analyses were performed to
test the hypotheses. The scarcity message was treated as a dichotomous variable with a dummy
code “1” for ads with scarcity message condition and “0” for ads without scarcity message
condition. Consumers’ communication style was treated as a continuous variable. The results
showed that there were no significant interaction effects between scarcity messages and
communication style on consumers’ attitude toward the ads ($\beta = .02$, $t(297) = .17$, $p = \text{n.s.}$) (Figure
3.6), attitude toward the brands ($\beta = .03$, $t(297) = .44$, $p = \text{n.s.}$) (Figure 3.7), attitude toward the
advertised products ($\beta = -.001$, $t(297) = -.01$, $p = \text{n.s.}$) (Figure 3.8), and purchase intention ($\beta$
= .04, $t(297) = .49$, $p = \text{n.s.}$) (Figure 3.9). Therefore, Hypotheses 2-1 to 2-4 were not supported.
Figure 3.6: The effect of scarcity messages and communication style on attitude toward the ads.

Figure 3.7: The effect of scarcity messages and communication style on attitude toward the brands.
Figure 3.8: The effect of scarcity messages and communication style on attitude toward the product.

Figure 3.9: The effect of scarcity messages and communication style on purchase intention.
However, further analyses revealed a significant influence of communication style on attitude toward the ads ($\beta = .26$, $t(299) = 4.57$, $p < .001$), attitude toward the brands ($\beta = .26$, $t(299) = 4.70$, $p < .001$), attitude toward the advertised products ($\beta = .25$, $t(299) = 4.55$, $p < .001$), and purchase intention ($\beta = .27$, $t(299) = 4.89$, $p < .001$). The results indicated that ads became more effective as consumers adopt a higher-context communication style. Table 3.4 shows descriptive statistics of the attitudes and purchase intention by brand.

**Arousal.** A t-test analysis showed that participants who were exposed to ads with a scarcity message ($M_{\text{scarcity}} = 3.32$, $SD_{\text{scarcity}} = 1.48$) and those who were exposed to ads without a scarcity message ($M_{\text{without scarcity}} = 3.49$, $SD_{\text{without scarcity}} = 1.64$, $t(299) = -.96$, $p = \text{n.s.}$, 95%CI = [-.53, .18], Cohen’s $d = .11$) reported similar amount of arousal generated by the ads. Nevertheless, the findings revealed a significant effect of consumers’ communication style on arousal ($\beta = .21$, $t(299) = 3.76$, $p < .001$).
Table 3.4: Descriptive statistics of the four variables by brand.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Attitude toward the ad</th>
<th>Attitude toward the brand</th>
<th>Attitude toward the product</th>
<th>Purchase intention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With scarcity messages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean (N=150)</td>
<td>SD</td>
<td>Mean (N=151)</td>
<td>SD</td>
</tr>
<tr>
<td>Pop Craze</td>
<td>3.96</td>
<td>1.64</td>
<td>3.96</td>
<td>1.56</td>
</tr>
<tr>
<td>Rainbow</td>
<td>4.08</td>
<td>1.73</td>
<td>4.03</td>
<td>1.67</td>
</tr>
<tr>
<td>Sooth Candy</td>
<td>3.82</td>
<td>1.70</td>
<td>3.65</td>
<td>1.57</td>
</tr>
<tr>
<td>Sweet Gems</td>
<td>4.07</td>
<td>1.70</td>
<td>3.94</td>
<td>1.65</td>
</tr>
<tr>
<td>Tasty Lolly</td>
<td>4.12</td>
<td>1.65</td>
<td>3.96</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td>Without scarcity messages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop Craze</td>
<td>3.92</td>
<td>1.58</td>
<td>3.98</td>
<td>1.44</td>
</tr>
<tr>
<td>Rainbow</td>
<td>4.25</td>
<td>1.59</td>
<td>4.13</td>
<td>1.57</td>
</tr>
<tr>
<td>Sooth Candy</td>
<td>3.87</td>
<td>1.57</td>
<td>3.81</td>
<td>1.56</td>
</tr>
<tr>
<td>Sweet Gems</td>
<td>4.06</td>
<td>1.62</td>
<td>3.88</td>
<td>1.62</td>
</tr>
<tr>
<td>Tasty Lolly</td>
<td>4.06</td>
<td>1.63</td>
<td>4.03</td>
<td>1.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop Craze</td>
<td>3.83</td>
<td>1.73</td>
<td>3.91</td>
<td>1.55</td>
</tr>
<tr>
<td>Rainbow</td>
<td>4.04</td>
<td>1.76</td>
<td>3.97</td>
<td>1.68</td>
</tr>
<tr>
<td>Sooth Candy</td>
<td>3.81</td>
<td>1.67</td>
<td>3.64</td>
<td>1.65</td>
</tr>
<tr>
<td>Sweet Gems</td>
<td>4.01</td>
<td>1.76</td>
<td>3.85</td>
<td>1.67</td>
</tr>
<tr>
<td>Tasty Lolly</td>
<td>4.07</td>
<td>1.64</td>
<td>3.91</td>
<td>1.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop Craze</td>
<td>3.75</td>
<td>1.81</td>
<td>3.78</td>
<td>1.68</td>
</tr>
<tr>
<td>Rainbow</td>
<td>3.93</td>
<td>1.83</td>
<td>3.95</td>
<td>1.70</td>
</tr>
<tr>
<td>Sooth Candy</td>
<td>3.67</td>
<td>1.80</td>
<td>3.70</td>
<td>1.70</td>
</tr>
<tr>
<td>Sweet Gems</td>
<td>4.03</td>
<td>1.86</td>
<td>3.66</td>
<td>1.79</td>
</tr>
<tr>
<td>Tasty Lolly</td>
<td>4.11</td>
<td>1.70</td>
<td>3.97</td>
<td>1.75</td>
</tr>
</tbody>
</table>
Variety-seeking. Hypothesis 2-5 proposed that in a competitive advertising context, ads with a scarcity message versus those without a scarcity message would increase consumers’ variety-seeking as consumers’ adopt a lower-context communication style. The findings of a regression analysis showed no statistically significant interaction between communication style and scarcity messages ($\beta = -.09, t(297) = -1.02, p = \text{n.s.}$). Therefore, H2-5 was not supported (Figure 3.10).

Consumers’ variety-seeking was regressed on arousal, but no significant result was observed ($\beta = .06, t(299) = 1.03, p = \text{n.s.}$). There was no statistically significant interactive effect between consumers’ communication style and scarcity messages ($\beta = -.11, t(299) = -1.40, p = \text{n.s.}$).

![Graph showing the effect of scarcity messages and communication style on variety-seeking.](image)

**Figure 3.10:** The effect of scarcity messages and communication style on variety-seeking.
There significant main effect of scarcity messages on attitudes, purchase intention, arousal, and variety-seeking was not observed as shown in Table 3.5. The summary of results of Study 2 is illustrated in Table 3.6.

**Table 3.5:** Descriptive statistics of all dependent variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>With scarcity message</th>
<th>Without scarcity message</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (N=150)</td>
<td>SD</td>
</tr>
<tr>
<td>Attitude toward the ads</td>
<td>4.01</td>
<td>1.43</td>
</tr>
<tr>
<td>$t(299) = .63, p = n.s., 95%CI = [-.21, .41]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward the brands</td>
<td>4.03</td>
<td>1.36</td>
</tr>
<tr>
<td>$t(299) = .42, p = n.s., 95%CI = [-.24, .36]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward the advertised products</td>
<td>3.95</td>
<td>1.44</td>
</tr>
<tr>
<td>$t(299) = .60, p = n.s., 95%CI = [-.22, .41]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3.90</td>
<td>1.53</td>
</tr>
<tr>
<td>$t(299) = .49, p = n.s., 95%CI = [-.25, .41]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arousal</td>
<td>3.32</td>
<td>1.48</td>
</tr>
<tr>
<td>$t(299) = -.96, p = n.s., 95%CI = [-.53, .18]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variety-seeking</td>
<td>3.17</td>
<td>1.50</td>
</tr>
<tr>
<td>$t(299) = .35, p = n.s., 95%CI = [-.28, .40]$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.6: Summary of results of Study 2

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H2-1</strong>: Consumers who score lower on the communication style scale will report <em>less positive attitude toward the ads</em> when ads are presented with a scarcity message and report <em>more positive attitude toward the ads</em> when ads are presented without a scarcity message compared to those who score higher on the communication style scale.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
<tr>
<td><strong>H2-2</strong>: Consumers who score lower on the communication style scale will report <em>less positive attitude toward the brands</em> when ads are presented with a scarcity message and report <em>more positive attitude toward the brands</em> when ads are presented without a scarcity message compared to those who score higher on the communication style scale.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
<tr>
<td><strong>H2-3</strong>: Consumers who score lower on the communication style scale will report <em>less positive attitude toward the advertised products</em> when ads are presented with a scarcity message and report <em>more positive attitude toward the advertised products</em> when ads are presented without a scarcity message compared to those who score higher on the communication style scale.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
<tr>
<td><strong>H2-4</strong>: Consumers who score lower on the communication style scale will report <em>less purchase intention</em> when ads are presented with a scarcity message and report <em>more purchase intention</em> when ads are presented without a scarcity message compared to those who score higher on the communication style scale.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
<tr>
<td><strong>H2-5</strong>: Consumers who score lower on the communication style scale will seek <em>more variety in products</em> when ads are presented with a scarcity message and seek <em>less variety in products</em> when ads are presented without a scarcity message compared to those who score higher on the communication style scale.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
</tbody>
</table>
Discussion

Scarcity messages (i.e., time limitation) have frequently been used to accelerate purchases (Cialdini, 2008). Under a time-limited condition, consumers are less likely to search for information and show greater willingness to buy the product (Aggarwal & Vaidyanathan, 2003; Gierl, Plantsch, & Schweidler, 2008). They are prone to evaluate the scarce products more favorably as they perceive these products as more valuable (Jung & Kellaris, 2004). However, in everyday life, consumers are exposed to the ubiquity of ads using scarcity messages. This raises questions regarding the applicability of prior findings in the non-isolated advertising circumstance. This study, therefore, extends previous literature by exploring the effect of scarcity messages in a competitive advertising environment. The interactive effect of scarcity messages and individual differences in low-and high-context communication style is also examined.

Significant interactive effects between scarcity messages and consumers’ communication style on attitudes, purchase intention, and variety-seeking were not observed. This may be because the price of candies was relatively low such that scarcity messages could not trigger inferences about the product’s value (Eisend, 2008). Participants might not feel uncertain or desire for the product to the point that they would seek variety in products to reduce such feeling and future regret (Inman & McAlister, 1994). In addition, participants might be aware that they are being persuaded and found it unlikely that the candies will be in short supply. Therefore, the scarcity message was not effective. Mukherjee and Lee (2016) found that consumers’ expectation of scarcity plays an important role in the persuasiveness of the scarcity appeal. Specifically, such appeals are likely to be more effective when consumers have high (versus low) expectations of product scarcity. This is because when consumers have low expectations about the product’s scarcity, their persuasive knowledge will be activated, thus eliminating the positive
influence of the scarcity appeal. Future studies should consider using more expensive, higher-involvement products to test the impact of scarcity messages.

The influence of consumers’ communication style on ad effectiveness when the advertised products and brands were novel replicates the pattern of results in Study 1. Communication style has been observed to influence ad effectiveness such that consumers with a high-context communication style showed greater positive attitudes and higher purchase intentions than those with a low-context communication style.

Study 1 and Study 2 were designed to examine the influence of two advertising strategies in a more natural setting. In real life, consumers are exposed not only to ads but also to other kinds of information. Banner ads embedded in news articles were used as stimuli in Study 1 and 2 to increase ecological validity. However, this method might reduce internal validity because the results might be affected by uncontrollable factors such as the participants’ attention to the stimuli. An essential issue that remained unresolved after the two studies was whether consumers’ communication style would interact with other advertising strategies and play an important role in the persuasiveness of ads and consumers’ variety-seeking behavior in a controlled setting. Also, because the brands and the products used in the studies were fictitious, consumers’ experience with the product and brand familiarity might have an effect on attitude toward the ads, the advertised products, purchase intention, and variety-seeking behavior.

Study 3 was designed to address these potential shortcomings and to extend the scope of the findings. It was conducted in the computer lab. Participants were exposed to a series of ads without a filler task (i.e., a news article to read). Familiar brands and products were used as stimuli. Study 3 counterbalanced the structure of the questions by asking participants’ communication style before exposure to the stimuli in order to prevent ordering effects. Study 3
investigates how communication style interacts with sex appeal in ads. Sex appeal is expected to influence stimulation through its ability to generate arousal.
Study 3: The influence of consumers’ communication style and sex appeal on attitudes, purchase intention, and variety-seeking

Study 3 examines the effects of communication style and sex appeal on consumers’ attitudes, purchase intention, and variety-seeking behavior. Consumers with LC and HC communication style enjoy different types of advertising content (Biswas et al., 1992). Those with LC communication style are more likely to pay attention to ad details. Verbal expression and explicit messages are preferred to ensure that meanings are not left behind (Hall, 1976). Therefore, ads made for LC communication consumers tend to be more direct and informative and contain more text (Biswas et al., 1992; Campbell et al., 1988; Cateora, 1983; Hong, Muderrisoglu, & Zinkhan, 1987; Lannon, 1986; Stollerman, 1980). On the contrary, consumers with HC communication style are prone to take the circumstances surrounding the message into consideration, as opposed to just the message itself (Hall, 1976). Because consumers with a high-context communication style tend to “read between the lines,” messages that use fewer texts and which allow them to exercise their imagination and intuition to understand unexpressed information are more attractive (Campbell et al., 1988; Cateora, 1983). Hence, ads intended for those with high-context are likely to contain more aesthetic values and less direct texts about the advertised products (Biswas et al., 1992; Hong et al., 1987; Lannon, 1986; Stollerman, 1980).

Sex appeal has frequently been used in advertising even in cases when the sexual content and the advertised products are not directly associated (Reichert & Lambiase, 2003, 2006). A vast majority of ads containing sex appeal employ visual elements and utilize ambiguous phrases or comments that have multiple meanings (Biswas et al., 1992; Reichert & Ramirez, 2000; Soley & Kurzbard, 1986). As a result, the ads require consumers to interpret them to understand the messages. It is possible that consumers with LC or HC communication style process sexual
content in ads differently resulting in different attitudes toward the ads and the advertised products, purchase intention, choices, and variety-seeking behavior. The implicit cues in ad with sex appeal might cause those with a high-context communication style to like them more. A competitive ad context better fits with consumers with a high-context communication style who tend to engage in relational processing.

Therefore, it is hypothesized that consumers’ communication style and ads with sex will interact to influence the outcome variables so that those who score high on the communication style scale will find such ads more effective.

H3-1: Consumers who score higher on the communication style scale will report more positive ad evaluation when ads are presented with more sex appeal than when ads are presented with less sex appeal.

H3-2: Consumers who score higher on the communication style scale will report more positive attitudes toward the advertised products when ads are presented with more sex appeal than when ads are presented with less sex appeal.

H3-3: Consumers who score higher on the communication style scale will report more purchase intentions when ads are presented with more sex appeal than when ads are presented with less sex appeal.

Previous studies suggested a positive relationship between sex appeal and general arousal (e.g. Belch et al., 1981; LaTour, 1990; Tafliger, 1996). In short, greater sexual explicitness leads to higher level of arousal (LaTour, 1990). Belch et al. (1981) found that as the level model nudity increases, consumers experience higher arousal. Sexual content and variety-seeking can influence people’s level of arousal. Because consumers are already aroused by viewing ads with
sexual appeal, they will no longer require arousal from various choices (variety seeking). Consumers with a high-context communication style should thus receive greater arousal from ads with sex appeal than from ads without sex appeal because they pay attention to the connection between the advertised products and sex appeal. When the advertised products are matched with sex appeal, the ad messages should facilitate their information processing resulting in less variety-seeking.

\[ H3-4: \text{Consumers who score higher on the communication style scale will seek less variety in products when ads are presented with more sex appeal than when ads are presented with less sex appeal.} \]

**Method**

*Participants and design.* Ninety-five undergraduates enrolled in Advertising courses at a large public university located in the Midwest participated in this study and received extra credit for their participation. Participants’ age ranged from 18 to 23 years \((M =19.65, SD =1.16)\). Of these, 21 were men, 73 were women, and one preferred not to disclose his/her gender. They were primarily White (67%) and Asian (20%). African American, European, Hispanic, and others constituted 14% of the participants. The research design consisted of a two-level (Appeal: sex appeal versus without sex appeal) between-participants design. An individual’s communication style was assessed by questionnaire items adopted from Richardson and Smith (2007). Sex appeal and without sex appeal conditions were operationalized based on Dudley’s (1999) that defined sexual treatment conditions as women in progressive stages of undress: low (fully clothed or suggestively dressed); moderate (swimwear or intimate wear); and high (nudity).
Stimulus materials. The target product for this study was a female fragrance. It was chosen for two reasons. First, sex appeal is frequently used in fragrance ads that are frequently displayed next to each other. Second, fragrance ads may utilize both sex or non-sex appeal for the same product (e.g., Reichert and Alvaro, 2001). Five existing ads with high sex appeal and five ads without sex appeal for five fragrance brands (i.e., Dior, Calvin Klein, Burberry, Tommy Hilfiger, and Marc Jacobs) were used as stimuli. All of them were created by professionals. The ads with more sex appeal showed a half-nude, sexy, or alluring expressive model, whereas those with less sex appeal showed a model wearing full-coverage clothes with a less suggestive posture (Appendix C).

Experimental procedure. Participants were given a consent form, which they read and signed. They were then informed that the study aims to determine the effects of social influence on individual’s attitudes and behavior. Then, they were randomly assigned to one of two conditions (viewing ads with more sex appeal or viewing ads with less sex appeal).

The first part of the questionnaire was composed of a series of questions assessing participants’ communication style. The second part was designed to capture their responses to the ads. The participants in each condition saw five female perfume banner ads, one at a time. The five ads were presented randomly in sequence on the computer monitor. Immediately after viewing each ad, participants were asked to write down what they feel about the ad, evaluate it, indicate their attitude toward the product, and specify their intention to purchase the advertised product. The last part of the questionnaire measured variety-seeking behavior. The participants were asked to choose the number of items they would like to receive from the list of advertised brands they just saw. They were informed that they could choose any product in combinations of five. These five products could be of the same brand or different brands. Demographic
information was collected at the end of the questionnaire. Throughout the experiment, the participants did not interact with each other. They were debriefed after the experiment.

**Measure**

*Communication style.* Participants’ communication style was measured using six statements such as “A listener should be able to understand the intent of the speaker from the way the person talks” and “People understand many things that are left unsaid” (α = .67).

*Ad evaluation.* Participants evaluated each ad on five seven-point semantic differential scales scored 1 to 7 (higher scores represent more favorable ad evaluation): boring/not boring; irritating/not irritating; not creative/creative; not attractive/attractive; and not interesting/interesting, (α_Dior = .79, α_Calvin Klein = .84, α_Burberry = .78, α_Tommy Hilfiger = .81, α_Marc Jacobs = .83, and α_total = .91). Scores on the five scales were summed and averaged to obtain an ad evaluation index.

*Attitude toward the advertised product.* Participants’ attitude toward each advertised product was elicited using four seven-point semantic differential scales scored 1 to 7 (higher scores represent more favorable attitude toward the product). The dichotomous adjectives placed at the ends of the scales included bad/good, unfavorable/favorable, not likable/likable, and negative/positive, (α_Dior = .94, α_Calvin Klein = .97, α_Burberry = .94, α_Tommy Hilfiger = .95, α_Marc Jacobs = .97, and α_total = .92). Scores on the four scales were summed and averaged to obtain an index for attitude toward the advertised product.

*Purchase intention.* Participants reported their agreement to the statement, “You will buy this product in the near future,” for each advertised product on a Likert scale in which 1=strongly disagree and 7=strongly agree.
Arousal. In order to measure arousal at more subtle level, participants were asked to describe how they feel about each ad they had seen. Their open-ended answers were then coded by the two coders who were blind to the experimental conditions and the study’s hypotheses. The responses were coded following Mehrabian and Russell’s (1974) emotional arousal measure (i.e., “energetic,” “active,” “vigorous,” “stimulated,” and “aroused”). For example, coders coded responses such as “very sensual” and “somewhat erotic” as “1.” Answers such as “vampiric,” “mythical,” and “would appeal to girls in their late teens” were coded “0.” An intercoder reliability Kappa analysis showed Cohen’s kappa = .65.

Variety-Seeking. The extent to which the participants sought variety in fragrance products was measured through the number of brands they selected. They were instructed as follows: “If you were offered to receive samples (.15 oz. each) of the advertised fragrance, please indicate the number of advertised brands you would like to receive. You can choose any item in combinations of five (i.e., 5 of brand A, or 2 of brand A + 3 of brand B, or 1 of each five brands).” This method was used in previous studies (e.g., Shen & Wyer, 2010; Simonson, 1990; Van Trijp, 1994).

Results

To test the hypotheses, sex appeal was treated as a dichotomous variable with a dummy code “1” for ads with sex appeal and “0” for ads without sex appeal. Consumers’ style of communication was treated as a continuous variable and was subtracted by the average score of communication style before including it into the regression analysis. This was done to investigate the main and interaction effects on ad evaluation, attitudes, purchase intention, and variety-seeking (Aiken & West, 1991).
**Manipulation check.** Participants’ perception of the sex appeal content each ad was measured using a single seven-point semantic differential scale, where 1 = non-sexual ad; 7 = sexual ad. A t-test analysis revealed that participants in the ads with more sex appeal condition \( M_{\text{more sex appeal}} = 6.12, SD_{\text{more sex appeal}} = .86 \) perceived these ads as more sexual than the ads in the with less sex appeal condition \( M_{\text{less sex appeal}} = 5.10, SD_{\text{less sex appeal}} = .99, t(93) = 5.38, p < .01, 95\%CI = [.65, 1.40], \) Cohen’s \( d = 1.10 \). Although the manipulation was successful, the average scores indicated high perception of sex appeal in both conditions. This might be because consumers have different concepts of what constitutes sex appeal (Belch et al., 1981; Reichert & Ramirez, 2000).

**The influence of product experience and brand familiarity.** Product experience and brand familiarity were entered into the regression analysis as control variables. To determine the participants’ experience with the product, they were asked: “Please indicate the extent to which you feel you have previous experience with this product.” To measure their familiarity with the brand, they were asked: “Please indicate the extent to which you feel you familiar with this brand.” The response options were placed on a scale 1 (no previous experience/not familiar) to 7 (a lot of experience/extremely familiar) for each product. The statistical outcomes were not significantly different from those mentioned previously after controlling for these two variables. This suggests that the results were not confounded by the influence of product experience \( M_{\text{experience}} = 3.13, SD_{\text{experience}} = 1.49 \) and brand familiarity \( M_{\text{familiarity}} = 3.17, SD_{\text{familiarity}} = 1.60 \).

However, the main effects of product experience on attitude toward the advertised products \( \beta = .38, t(93) = 3.90, p < .001 \) and purchase intention \( \beta = -.49, t(93) = -5.39, p < .001 \) were significant. The main effects of brand familiarity on attitude toward the advertised products \( \beta = .36, t(93) = 3.68, p < .001 \) and purchase intention \( \beta = -.52, t(93) = -5.81, p < .001 \) were significant.
The influence of gender. Because the products used in this study were female fragrance and ads used as stimuli showed either less or more nude female model, gender effects were taken into account. A participant who did not disclose his/her gender was taken out from the analysis. F-test analysis indicated no interaction effect between gender and sex appeal on ad evaluation (\(F(1,90) =1.68, p =\text{n.s.}\)), attitude toward the products (\(F(1,90) =.05, p =\text{n.s.}\)), purchase intention (\(F(1,90) =.85, p =\text{n.s.}\)), and variety-seeking (\(F(1,90) =.003, p =\text{n.s.}\)). Further analyses revealed a significant main effect of gender on attitude toward the products (\(M_{\text{male}} =4.16, SD_{\text{male}} =.92\) vs. \(M_{\text{female}} =4.77, SD_{\text{female}} = .89, t(92) =2.76, p <.05\)) and purchase intention (\(M_{\text{male}} = 6.17, SD_{\text{male}} =1.15\) vs. \(M_{\text{female}} =4.74, SD_{\text{female}} =1.36, t(92) =4.39, p <.001\)) but not on ad evaluation (\(M_{\text{male}} =4.43, SD_{\text{male}} =1.04\) vs. \(M_{\text{female}} =4.54, SD_{\text{female}} = .99, t(92) =.47, p =\text{n.s.}\)) and variety-seeking (\(M_{\text{male}} =2.90, SD_{\text{male}} =1.51\) vs. \(M_{\text{female}} =3.23, SD_{\text{female}} =1.15, t(92) =1.07, p =\text{n.s.}\)).

Ad evaluation, attitude toward the advertised products, and purchase intention. Ads with sex appeal require some interpretation because they typically do not explicitly provide information about the advertised product (Biswas et al., 1992; Reichert & Lambiase, 2003, 2006; Reichert & Ramirez, 2000; Soley & Kurzbard, 1986). Because sex appeal can evoke thoughts about sexual content, when it is used to advertise a product that consumers can make a connection between the appeal and the product, it should provide information to consumers. Ads with more sex appeal should evoke more thoughts and thus provide more information to consumers than those with less sex appeal. Therefore, it was hypothesized that consumers who scored higher on the communication style scale were more likely to be persuaded by ads with more sex appeal and were less likely to be persuaded by ads with less sex appeal. Regression analyses revealed a significant interaction effect between consumers’ communication style and sex appeal (\(\beta = .25, t(91) =2.33 p <.05\)) (Figure 3.11). Further analyses indicated no relationship between consumers’
communication style and their attitude toward ads for more sex appeal ads \((\beta = .15, t(47) = 1.04 p = \text{n.s.})\). The results revealed a significant negative relationship between consumers’ communication style and their attitude toward ads with less sex appeal \((\beta = -.32, t(44) = -2.25 p < .05)\). The lower-context communication style consumers became, the more favorable attitude they had for ads with less sex appeal. Therefore, hypothesis 3-1 was supported.

![Figure 3.11](image)

**Figure 3.11:** The effect of sex appeal and communication style on ad evaluation.

The results for ad evaluation were expected to be the same as those for attitude toward the advertised products. However, a significant interaction effect between communication style and sex appeal was not detected \((\beta = .15, t(91) = 1.51 p = \text{n.s.})\). Hypothesis 3-2, therefore, was not supported (Figure 3.12). Also, no main effects of communication style \((\beta = -.04, t(93) = -.42, p = \text{n.s.})\) and sex appeal \((\beta = -.18, t(93) = -1.73, p = \text{n.s.})\) on attitudes toward the advertised products were found.
Next, the interaction effect between communication style and sex appeal on purchase intention was examined. The result showed no significant interaction between the two variables ($\beta = -0.28$, $t(91) = -1.86$, $p = \text{n.s.}$). Therefore, Hypothesis 3-3 was not supported (Figure 3.13). Descriptive statistics of the attitudes and purchase intention by brand are presented in Table 3.7.

**Figure 3.12:** The effect of sex appeal and communication style on attitude toward products.
Figure 3.13: The effect of sex appeal and communication style on purchase intention.
Table 3.7: Descriptive statistics of attitudes and purchase intention by brand.

<table>
<thead>
<tr>
<th>Brand</th>
<th>More sex appeal</th>
<th></th>
<th>Less sex appeal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (N=49)</td>
<td>SD</td>
<td>Mean (N=46)</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Attitude toward the ad</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dior</td>
<td>4.71</td>
<td>1.25</td>
<td>4.28</td>
<td>1.22</td>
</tr>
<tr>
<td>Calvin Klein</td>
<td>4.24</td>
<td>1.39</td>
<td>4.43</td>
<td>1.44</td>
</tr>
<tr>
<td>Burberry</td>
<td>4.51</td>
<td>1.26</td>
<td>4.22</td>
<td>1.32</td>
</tr>
<tr>
<td>Tommy Hilfiger</td>
<td>4.60</td>
<td>1.27</td>
<td>4.78</td>
<td>1.37</td>
</tr>
<tr>
<td>Marc Jacobs</td>
<td>4.20</td>
<td>1.38</td>
<td>5.32</td>
<td>1.12</td>
</tr>
<tr>
<td><strong>Attitude toward the product</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dior</td>
<td>4.68</td>
<td>1.33</td>
<td>4.47</td>
<td>1.22</td>
</tr>
<tr>
<td>Calvin Klein</td>
<td>4.03</td>
<td>1.27</td>
<td>4.20</td>
<td>1.53</td>
</tr>
<tr>
<td>Burberry</td>
<td>4.53</td>
<td>1.42</td>
<td>4.67</td>
<td>1.16</td>
</tr>
<tr>
<td>Tommy Hilfiger</td>
<td>4.59</td>
<td>1.37</td>
<td>4.83</td>
<td>1.33</td>
</tr>
<tr>
<td>Marc Jacobs</td>
<td>4.61</td>
<td>1.57</td>
<td>5.90</td>
<td>1.28</td>
</tr>
<tr>
<td><strong>Purchase intention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dior</td>
<td>5.39</td>
<td>1.94</td>
<td>5.28</td>
<td>1.56</td>
</tr>
<tr>
<td>Calvin Klein</td>
<td>5.78</td>
<td>1.62</td>
<td>5.13</td>
<td>1.60</td>
</tr>
<tr>
<td>Burberry</td>
<td>5.41</td>
<td>2.03</td>
<td>5.00</td>
<td>1.59</td>
</tr>
<tr>
<td>Tommy Hilfiger</td>
<td>5.35</td>
<td>1.88</td>
<td>4.67</td>
<td>1.79</td>
</tr>
<tr>
<td>Marc Jacobs</td>
<td>5.26</td>
<td>2.23</td>
<td>3.39</td>
<td>2.31</td>
</tr>
</tbody>
</table>

However, further analysis revealed a significant main effect of sex appeal. That is, participants indicated a greater intention to purchase the advertised products when the ads were presented with sex appeal ($M_{more \ sex \ appeal} = 5.44$, $SD_{more \ sex \ appeal} = 1.49$) than without sex appeal ($M_{less \ sex \ appeal} = 4.70$, $SD_{less \ sex \ appeal} = 1.32$, $t(93) = 2.56$, $p < .05$, 95%CI = [1.17, 1.32], Cohen’s $d = .53$).
Arousal. A t-test analysis showed that those who were exposed to ads with more sex appeal ($M_{\text{more sex appeal}} = .48$, $SD_{\text{more sex appeal}} = .29$) and those who saw the ads with less sex appeal did not differ in intensity of arousal ($M_{\text{less sex appeal}} = .46$, $SD_{\text{less sex appeal}} = .26$, $t(93) = .34$, $p = \text{n.s.}$, 95%CI = [-.54, .16], Cohen’s $d = .68$). No significant interaction effect between communication style and type of advertising presentation ($\beta = -.01$, $t(91) = -.08$, $p = \text{n.s.}$) was detected. Also, a significant main effect of communication style was not observed ($\beta = .05$, $t(93) = .48$, $p = \text{n.s.}$). Consumers’ variety-seeking behavior was then regressed on arousal. The results showed no significant effect of arousal on consumers’ variety-seeking behavior ($\beta = .10$, $t(93) = .95$, $p = \text{n.s.}$).

Variety-seeking. The number of brands the participants included in their selection indicated the degree of variety-seeking behavior (Simonson, 1990). Hypothesis 1-4 proposed that consumers’ context communication style and sex appeal would interact on their variety-seeking behavior. Although the hypothesis was not supported ($\beta = .09$, $t(91) = .65$ $p = \text{n.s.}$), the finding revealed that communication style influences variety-seeking ($\beta = -.21$, $t(93) = -2.06$, $p < .05$).
Those who scored higher on communication style tended to show less variety in their selections. Table 3.8 shows descriptive statistics of all dependent variables. The summary of results of Study 3 is illustrated in Table 3.9.

Figure 3.15: The effect of sex appeal and communication style on variety-seeking.
Table 3.8: Descriptive statistics of all dependent variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>More sex appeal</th>
<th>Less sex appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (N=49)</td>
<td>SD</td>
</tr>
<tr>
<td>Attitude toward the ads</td>
<td>4.45</td>
<td>1.04</td>
</tr>
<tr>
<td>t(93) = -.76, p = n.s., 95%CI = [-.56, .25]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude toward the advertised products</td>
<td>4.49</td>
<td>1.00</td>
</tr>
<tr>
<td>t(93) = -1.73, p = n.s., 95%CI = [-.70, .05]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>5.44</td>
<td>1.49</td>
</tr>
<tr>
<td>t(93) = 2.56, p &lt; .05, 95%CI = [.17, 1.32]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arousal</td>
<td>.48</td>
<td>.29</td>
</tr>
<tr>
<td>t(93) = .34, p = n.s., 95%CI = [.54, .16]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variety-seeking</td>
<td>3.29</td>
<td>1.26</td>
</tr>
<tr>
<td>t(93) = .96 p = .34, 95%CI = [-.26, .75]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.9: Summary of results of Study 3

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3-1: Consumers who score higher on the communication style scale will report more positive ad evaluation when ads are presented with more sex appeal than when ads are presented with less sex appeal.</td>
<td>Supported, $p &lt; .05$</td>
</tr>
<tr>
<td>H3-2: Consumers who score higher on the communication style scale will report more positive attitudes toward the advertised products when ads are presented with more sex appeal than when ads are presented with less sex appeal.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
<tr>
<td>H3-3: Consumers who score higher on the communication style scale will report more purchase intentions when ads are presented with more sex appeal than when ads are presented with less sex appeal.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
<tr>
<td>H3-4: Consumers who score higher on the communication style scale will seek less variety in products when ads are presented with sex appeal than when ads are presented without sex appeal.</td>
<td>Not supported, $p = n.s.$</td>
</tr>
</tbody>
</table>

Discussion

Sex appeal is often employed in advertising to attract attention and drum up interest and sales (Belch et al., 1981; Dudley, 1999; Reichert, 2002; Reichert et al., 2001). The results of Study 1 offer empirical evidence that supports this claim. They show that ads with sex appeal enhances purchase intention even in a competitive advertising context. However, the findings do not show that sex appeal affects attitudes toward the ads and the advertised products.

As hypothesized in H3-1, the result reveals an interactive effect between communication style and sex appeal on attitude toward the ads. For ads with less sex appeal, there was a significant negative relationship between consumers’ communication style and their attitude toward ads. This may be because ads with more sex appeal evokes more thoughts about sex and
therefore distracts consumers from information processing compared to ads with less sex appeal especially those who are more likely to pay attention to specific attributes of the ads. It can also be surmised that a competitive advertising context also inhibits their relational processing. This finding is consistent with that of Reichert et al. (2001), which showed that sex appeal reduces item-specific and rational processing so that consumers are likely to be persuaded by heuristics cues associated with the message. Nevertheless, the interactive effects of the two variables on attitude toward the advertised products, purchase intention, and variety-seeking were not significant. It may be that the participants are already well aware of these products and may have developed their attitudes toward them from personal experience rather than from the ads evidenced by the main effects of product experience and brand familiarity on attitude toward the advertised products and purchase intention.
CHAPTER 4: GENERAL DISCUSSION

Overview

The primary objective of this dissertation was to determine whether individual differences in communication style and three advertising strategies (i.e., repetition-variation in advertising presentation, the use of scarcity messages, and the use of sex appeal) interact to influence ad persuasiveness and consumers’ variety-seeking behavior. I specifically examined these variables within a competitive advertising environment wherein ads using the same advertising strategy for competing brands of products within the same category are being considered alongside each other. Most advertising strategies have been developed and tested for single ad exposure. This dissertation aims to expand this line of inquiry by examining effects under competitive circumstances. Understanding the nature of consumers’ communication style and the variables it affects is expected to inform the development of successful advertising campaigns.

Advertisers and marketers develop advertising strategies with the goal of fostering more favorable attitudes and heightening purchase intention. Therefore, attitudes and purchase intention were used to assess advertising effectiveness in this dissertation. Another variable of interest is consumers’ variety-seeking behavior because it is said to be affected by factors such as the contextual environment (e.g., an arrangement of display; Maimaran & Wheeler, 2008; Roehm & Roehm, 2010). When consumers’ variety-seeking behavior increases, the less preferred brands (and the novel brands) are likely to gain market share at the expense of the preferred ones (Roehm & Roehm, 2004). As a result, advertisers need to know the characteristics
of their consumers as well as how ad context and ad content impact the persuasiveness of the ads so that they can place their ads in the proper ad environment.

The three studies presented in this dissertation demonstrate when consumers’ communication style and the three advertising strategies (i.e., repetition-variation in advertising presentation, scarcity message, and sex appeal) can influence consumers’ responses to ads and their variety-seeking behavior under a competitive advertising context. The three strategies are of interest because they were anticipated to influence consumers’ variety-seeking behavior by influencing their arousal. Consumers’ level of arousal is affected by change, uncertainty, ambiguity, incongruity, and other factors that are associated with a stimulus in the environment (Berlyne, 1960). Study 1 examined the effects of repetition-variation. This strategy was expected to impact consumers’ arousal by introducing changes in ad presentation. Study 2 examined the effects of scarcity messages. The use of scarcity messages was anticipated to affect arousal by triggering product desirability. Study 3 examined the effect of sex appeal. This strategy was expected to influence consumers’ arousal. The hypotheses were tested in two different situations. Studies 1 and 2 were online experiments that exposed respondents to fictitious ads as stimuli, whereas Study 3 was an experiment in a more controlled environment that used actual ads and existing brands as stimuli.

The results of the three studies suggest that consumers’ communication style has a significant impact on the effectiveness of repetition-variation advertising presentation and scarcity messages in the competitive advertising environment when brands and products are new to consumers. That effect was demonstrated in Study 1 and was replicated in Study 2 even though the two studies tested different advertising strategies. Consumers showed more favorable attitudes toward the ads, toward the brands, and toward the advertised products as well as greater
purchase intention as they adopt a high-context communication style regardless of the deployment of repetition variation and scarcity messages. This may be because a competitive advertising context promotes association among ads and advertised products (Malaviya et al., 1996). In such an environment, consumers with a high-context communication style who are likely to process advertising messages by finding the connection between ad content and context (Hall, 1976, 2000; Masuda & Nisbett, 2001) are facilitated to process the ads as a whole. This, therefore, heightens the effectiveness of ads. These findings support those of previous studies, which have demonstrated that the compatibility of consumers’ information processing style and ad messages accounts for the persuasiveness of messages (Higgins, 1998; Winkielman et al., 2003). However, the impact of communication style on attitude toward the products and purchase intention disappeared in Study 3 in which familiar brands and products were presented. The interactive and main effects of communication style and each advertising strategy are discussed in detail below.

**The influence of consumers’ communication style and repetition-variation on persuasion and variety-seeking**

Study 1 was designed to test the impact of communication style and repetition-variation on consumers’ attitudes, purchase intention, and variety-seeking behavior. The findings showed that communication style and repetition-variation play a vital role in variety-seeking behavior. Communication style was found to have a negative relationship with repetition-variation on variety-seeking. Those with a low-context communication style tended to seek greater variety in products when different versions of an ad were shown than when exposed only to single version of the ad. The finding indicates that consumers with a high-context communication style are likely to choose a wider variety of products when ads are presented repeatedly without variation
than when ads are presented repeatedly with variation. According to Berlyne (1960), a person can obtain arousal from the incongruity. More specifically, consumers might need the two types of elaboration (i.e., item-specific and relational) to achieve OSL. For example, consumers with a high-context communication style and who tend to process information relationally might obtain greater arousal from an ad environment that uses repetition with variation than one that promotes repetition without variation, which results in less variety-seeking (Berlyne, 1960; Raju, 1980).

An alternative explanation might be that, as suggested by the dual elaboration hypothesis, consumers require both types of elaboration to judge the advertised products. For example, consumers with high-context communication who tend to process information by focusing their attention to specific attributes of the product might be able to elaborate on product attributes by comparing them with other product attributes to make a judgement (Malaviya et al., 1996; Malaviya et al., 1999). When there is only one type of elaboration, consumers might not be able to make a judgement because they are not able to elaborate on different product attributes. They thus tend to seek more variety in products in order to gain additional information.

Unexpectedly, the interactive effects between communication style and repetition-variation on attitudes and purchase intention were not statistically significant. The differences in scores on attitudes, purchase intention, and variety-seeking behavior for repetition-variation and repetition without variation also was not statistical significance. The stimuli used in this study may account for these results. First, it is possible that participants did not perceive the differences among ads and brands. In Study 1, I attempted to control for the utility function of products so that responses would be influenced by repetition-variation in ads rather than by the product’s utility value. Even though the ad for each brand had its own theme and the product has its unique shape, the key message for all ads was the utility of sticky notes for all situations. The
ad differences might not be salient enough to provide a strong effect. Future studies might take this issue into account. Second, although the ads contain some text, the text did not describe or explain the specific attributes of each product. Presenting specific product features help consumers distinguish a product from the rest, thus facilitating the processing of advertised product attributes (Hunt & Einstein, 1981; Hunt & Seta, 1984). Future research might want to consider using ads featuring image and message claims to strengthen the results.

The findings in Study 1 demonstrate the influences of communication style and repetition-variation in advertising presentation strategy in the presence of a competitive advertising condition. The findings showed that consumers’ communication style interacted with ads with repetition variation and without variation to influence the dependent measures. Study 2 extends Study 1 by looking at the results of using scarcity messages.

**The influence of consumers’ context communication style and scarcity messages on persuasion and variety-seeking**

Scarcity messages are used to enhance the value and desirability of products. Study 2 explored the effects of ads with a scarcity message for unfamiliar brands. Incorporating scarce messages have been shown to be more attractive to consumers (Cialdini, 2008; Jung & Kellaris, 2004; Lynn, 1992). The findings on the interaction effects between communication style and scarcity messages on attitudes, purchase intention, and variety-seeking behavior did not reach statistical significance. This might be because candies, which were used as the product stimuli in Study 2, were a low-price product. The scarcity messages, therefore, did not have enough impact on consumers’ evaluation and judgment (Eisend, 2008) perhaps because they just could not imagine that candies might be in short supply. Therefore, using scarcity messages might be a less effective strategy (Mukherjee & Lee, 2016).
Because scarcity messages explicitly inform consumers that the advertised products are scarce, ads with a scarcity message were expected to affect consumers with a low-context communication style who typically prefer direct messages, rather than those with a high-context communication style who prefer indirect and ambiguous messages (Hall, 1976). However, in a competitive advertising context in which ads using scarcity messages for competing brands of the same product category are displayed together, consumers with a low-context communication style might find it difficult to process information because of their tendency to focus on the specific attributes of each ad. On the other hand, this situation might facilitate the information processing of consumers with a high-context communication style, who tend to focus on the relationship among all ads (Hall, 1976; Masuda & Nisbett, 2001; Nisbett et al., 2001). To these consumers, ads presented within the same product category make it easy for them to discern the association among ads. The lack of significant results might be due to the fact that the ads did not explicitly illustrate the attributes of each product. Participants might find it difficult to distinguish a product from others, especially in a competitive advertising environment. Therefore, the effects of ads were likely to be a function of context rather than the presence of a scarcity message.

Studies 1 and 2 investigated the influence of communication style and two advertising strategies in a situation in which the brands are new to consumers. The findings of both studies reveal that consumers’ communication style plays an important role in ad persuasiveness and variety seeking behavior. The two studies were conducted in natural settings in which ads were embedded in online news articles. Study 3 expands the scope of inquiry by testing the impact of communication style and sex appeal when brands are known to consumers. As stated in the literature review section, Study 3 examines another variables that might influence stimulation
and in turn persuasion and variety seeking behavior. The study therefore was conducted in a controlled environment.

**The influence of consumers’ context communication style and sex appeal on persuasion and variety-seeking**

Study 3 examined the impact of sex appeal when brands are familiar to consumers. It was conducted in a controlled setting so that participants could focus on the stimuli and respond to the questionnaire without much distraction. The findings reveal that communication style and sex appeal interact to influence participants’ attitude toward the ads. Those with a low-context communication style indicated more favorable attitudes toward ads with less sex appeal. This might be because the ads with more sex appeal were more ambiguous in their messages and therefore required more interpretation than the ads with less sex appeal (Biswas et al., 1992; Reichert & Ramirez, 2000). It is also possible that those with a low-context communication style might be distracted more by the sex appeal in ads. Thus, ads with less sex appeal communicate better with consumers than their more sex appeal counterparts among those with a low-context communication style. Also, consumers with a low-context communication style who tend to concentrate on specific ad attributes might find it difficult to elaborate on the ads with more sex appeal because sexual content could trigger arousal that could distract their attention. Therefore, it is likely that they have few cognitive resources left to process other ad information and the relationship among the ads (MacInnis, Moorman, & Jaworski, 1991). Hence, ads less sex appeal were more persuasive to people with a low-context communication style. The interaction between communication style and sex appeal on attitude toward the brand and purchase intention was not significant. Consumers might have already developed previous attitudes and purchase intention toward the familiar brands via their personal experience.
Study 3 reveals a significant influence of sex appeal on purchase intention. Consumers express greater purchase intention when they are exposed to ads with more sex appeal rather than to ads with less sex appeal. This result extends those of previous findings that found sex appeal spurring sales, especially of beauty, fashion, health, and entertainment products (Reichen, Morgan, & Mortensen, 2000; Reichert, 2002). This may be because people find sex appeal relevant to these products (Reichert, 2002). Peterson and Kerin (1977) found that sex appeal was evaluated positively when it was used to advertise a relevant product (i.e., body oil). It was evaluated negatively when it was used to advertise an irrelevant product (i.e., wrench set).

It was hypothesized that sex appeal would affect variety-seeking through arousal (Belch et al., 1981). The more arousal consumers obtain from sexual appeals, the less arousal they will need from variety-seeking (Raju, 1980). The results revealed a negative relationship between communication style and variety-seeking behavior. Consumers with a high-context communication style tended to seek less variety in products regardless the presence of more or less sex appeal in ads. This might be because a competitive advertising context with sex appeal has already provided them with higher arousal. Moreover, Study 3 did not show a statistically significant interactive effect between communication style and sex appeal on variety-seeking behavior. This may be attributed to the fact that the participants perceived relatively high sex appeal in the ads in both conditions. Thus, it can be assumed that the same amount of arousal stimulated by the ads in both conditions did not produce differential effects on variety-seeking behavior. Future research should contrast stimuli with very high sex appeal against those with very low sex appeal for stronger tests of effects. In addition, the open-ended question used to measure arousal might not be a true measure to capture consumers’ arousal. Future study might consider using other methods to measure arousal.
Implications for Academics and Practitioners

This dissertation has made several theoretical contributions. First, it provides additional empirical support to previous research that found consumers’ communication style as playing an important role on the impact of ads. For example, it found that consumers’ communication style had an influence of the persuasiveness of repetition-variation ads and scarcity messages when brands are new to consumers. Previous studies were done at a cross-national level where researchers assumed that residents of a particular country have a specific style of communication. For instance, Americans were seen as having a low-context communication style whereas Koreans were surmised to have a high-context communication style. In addition, most of these studies (e.g., Biswas et al., 1992; Cutler et al., 1992; Jung & Kellaris, 2004) used content analysis to compare ads among countries. This perspective sees communication style as an attribute of ads rather than as individual disposition. In contrast, this study examined communication style as an attribute of the individual that could influence advertising effectiveness.

This dissertation also offered preliminary evidence of the effects of repetition-variation in advertising presentation, the use of scarcity messages, and the use of ads with sex appeal in a competitive advertising context. Previous research has empirically documented the effects of these three advertising strategies in isolated advertising contexts (Alexander & Judd, 1978; Belch et al., 1981; Brannon & Brock, 2001; Haugevedt et al., 1994; Schumann et al., 1990). Only a few studies have examined the effectiveness of these strategies under an advertising environment in which ads for competing brands of the same product category were presented. Those that did only looked at the effects of a single target ad rather than the impact of a group of ads (Malaviya, 2007; Malaviya et al., 1999; Sar, 2013). This study tried to approximate actual ad exposure
conditions by exposing participants to more than one ad. A general assumption is that an unfavorable environment can prematurely terminate the persuasion process. Therefore, a target ad is more likely to be processed if consumers have a positive attitude toward ads in the environment. The findings indicate that the effectiveness of these advertising strategies depends not only on the advertising context (i.e., competitive or non-competitive) but also on consumers’ style of communication.

This dissertation contributes to the variety-seeking literature by exploring the interplay between the three advertising strategies and consumers’ communication style on their variety-seeking behavior. Past studies on variety-seeking have focused on situational factors such as store environment (e.g., Levav & Zhu, 2009; Maimaran & Wheeler, 2008), product category (Van Trijp et al., 1996), and consumer personalities (Ratner & Kahn, 2002; Steenkamp & Baumgartner, 1992; Wu & Kao, 2011). In one theoretical paper that looked at this issue, Hirschman & Wallendorf (1980) argued that advertising might have a great influence on variety-seeking behavior especially when it introduced new alternatives. The interactive impact of style of communication and any one of the three advertising strategies (i.e., repetition-variation in advertising presentation, scarcity messages, and sex appeal) on variety-seeking also has yet to be explored. The findings of this dissertation demonstrate that the effect of repetition-variation in advertising presentation on variety-seeking behavior depends upon the advertising context and consumers’ communication style. However, the effects of the use scarcity messages and sex appeal were not clear. Understanding the impact of advertising on variety-seeking behavior is important to further enhance advertising’s role in influencing, communicating, and developing long-term relationships with consumers.
This study also shows that the persuasive impact of repetition-variation in advertising presentation and scarcity messages is a function of ad context and consumers’ communication style. Therefore, advertisers and brand managers can incorporate the findings into their creative strategies so that they can place their ads in an appropriate context and employ advertising strategies that are sensitive to consumers with different communication styles. Managers of leading brands can also apply the findings to minimize people’s variety-seeking and thus retain consumers (Chen & Paliwoda, 2004). Managers of competing brands can also use the findings to enhance variety-seeking behavior and expand their market share (Roehm & Roehm, 2004). For example, they might show a single version of ad (rather than multiple versions) in a location where the majority of consumers are high-context communicators when their competitive brands also employ a repletion advertising strategy.

**Limitations and Future Research Directions**

The design of the studies in this dissertation imposes several limitations. First, the three advertising strategies were chosen based on the theoretical assumption that they affect consumers’ level of arousal, which in turn, influences consumers’ variety-seeking behavior. I investigated only one dimension of each advertising strategy in each study. For example, Study 1 examined the influence of repetition-variation only in case of cosmetic ad variation. The effects of substantive variation were not tested (Schumann et al., 1990). Study 2 examined the influence of scarcity messages only in the case of limited-time scarcity (LTS). The effects of limited-quantity scarcity were not explored (Aggarwal et al., 2011; Cialdini, 2008). Study 3 operationalized sex appeal as the presence more or less nudity. Indeed, sex appeal can be operationalized as sexual behavior, sexual embeds, and symbolisms (Reichert, 2002).
research should investigate other aspects of these advertising strategies to be able to generalize results.

Second, the measurements used might have influenced the strength of the findings. Owing to the fact that consumers have limited cognitive resources and attention, some process measures and arousal measures were excluded. The assumptions were based on prior research and previous findings. Attitude was measured by two items and purchase intention was measured by a single item. While this practice can reduce participant fatigue, it is subject to measurement error. Single-item measures of abstract constructs tend to under-determine the relevant constructs (Rosenthal & Rosnow, 2007). Moreover, arousal was a self-report measure, which might not be sensitive enough to detect variations in arousal level. Future research should address these concerns as well as find the other possible appropriate measure for OSL to increase their ability to explain the mechanism underlying the effects.

Third, the three studies were limited to specific product categories (i.e., sticky notes, candies, and fragrances). A replication of these studies with other product categories might enhance the generalizability of findings.

Fourth, variety-seeking behavior was measured using the scenario approach rather than actual variety-seeking act. The participants were asked to assume that they were given the products as a gift. It would be interesting to examine the influence of ads and consumers’ communication style on variety-seeking behavior using actual variety-seeking behavior as a measure. It is important to note, however, that actual variety-seeking behavior might be confounded by other variables such as the arrangement of products (Menon & Kahn, 1995; Roehm & Roehm, 2010). Future research might consider recruiting participants who are highly involved with the target products.
REFERENCES


individual values on communication styles across cultures. *Human Communication Research, 22*(4), 510-543.


APPENDICES

Appendix A: Questionnaire used in Study 1

Below is an article about the impact of sleep deprivation on U.S. adults. Please take as much time as you need to read it. When you are finished, please answer the questions that follow.

Study: A third of U.S. adults don't get enough sleep

You've heard it before, and you'll hear it again: Despite repeated recommendations for adults to sleep at least seven hours each night, a new study shows that more than one-third of us are not getting enough shut-eye. And they've pinpointed which states are the most sleep-deprived.

The Centers for Disease Control and Prevention (CDC) study analyzed data from the 2014 Behavioral Risk Factor Surveillance System to determine whether adults are getting enough sleep. The survey respondents included 444,306 people in all 50 states and the District of Columbia. Researchers found that more than one-third of the adults reported sleeping less than seven hours in a 24-hour period.

Research has shown lack of sleep is associated greater risk of obesity, diabetes, heart disease, mental illness and other chronic conditions. The Centers for Disease Control and Prevention has even called inadequate sleep a public health problem. Adults 18 to 60 years should be sleeping at least seven hours a night, according to the Academy of Sleep Medicine and the Sleep Research Society, which are sleep-related professional associations.

"People just aren't putting sleep on the top of their priority list," said study author Anne Wheaton, PhD, an epidemiologist at the CDC. "They know they should eat right, get exercise, quit smoking, but sleep just isn't at the top of their board. And maybe they aren't aware of the impact sleep can have on your health. It doesn't just make you sleepy, but it can also affect your health and safety."

The study results suggest the need for public awareness and education about sleep health and workplace policies that ensure healthy amounts of sleep for shift workers, according to the study. Health care providers should also discuss the significance of healthy sleep duration with patients and identify why they aren't sleeping enough.
This study was the first to look at sleep hours on a state level, said Wheaton, which allowed them to map which states got more sleep than others.

States in the Southeast and along the Appalachian Mountains reported the least amount of sleep, according to the study. The state with the lowest reported amount of sleep was Hawaii, and the states with the highest reported amount of sleep were South Dakota, Colorado and Minnesota.

State- and county-level data is important because it helps public health departments "see where the problem is most severe," said Wheaton.

For the past decade, about one-third of adults have consistently reported not getting enough sleep, according to Wheaton. She emphasized the importance of establishing good sleep habits, such as going to bed and waking up at the same time each morning; having a good sleep environment, where the bedroom is dark and at a good temperature; removing electronics from your bedroom; avoiding big meals, caffeine, and alcohol before bed; and exercising regularly.

If you're following these guidelines and are still having sleep issues, Wheaton suggests speaking with a physician to see if there is something else that needs to be done.

"It's a public health problem," said Wheaton. "The reason we are trying to draw attention to it is that first it affects such a large proportion of the population and second that it's tied to so many health conditions that are such a big issue."

<table>
<thead>
<tr>
<th>Repetition-variation in advertising presentation</th>
<th>Repetition without variation in advertising presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
</tbody>
</table>

139
<table>
<thead>
<tr>
<th>Repetition-variation in advertising presentation</th>
<th>Repetition without variation in advertising presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
</tbody>
</table>

**Table Explanation:**

- **Repetition-variation in advertising presentation**
  - Shows examples of advertisements with slight variations in presentation.

- **Repetition without variation in advertising presentation**
  - Shows examples of advertisements without any variation in presentation.
### Repetition-variation in advertising presentation

***How do you feel about the advertisement?***

<table>
<thead>
<tr>
<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><strong>Bad</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Favorable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***How do you feel about the brand?***

<table>
<thead>
<tr>
<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><strong>Unappealing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Repetition without variation in advertising presentation

***How do you feel about the advertisement?***

<table>
<thead>
<tr>
<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><strong>Good</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unfavorable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***How do you feel about the brand?***

<table>
<thead>
<tr>
<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><strong>Appealing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How do you feel about the advertised product?
Likable 1 2 3 4 5 6 7 Unlikable

How likely would you buy the product?
Very unlikely 1 2 3 4 5 6 7 Very likely

Please indicate how well each adjective describes what you are feeling at this moment.

Stimulated
Not at all 1 2 3 4 5 6 7 Very much

Aroused
Not at all 1 2 3 4 5 6 7 Very much
If you were offered to receive samples of the advertised sticky notes, please indicate the number of advertised products you would like to receive. You can choose any item in the combination of FIVE (i.e. 5 of brand A, or 2 of brand A + 3 of brand B, or 1 for all five brands)

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Number of item(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="" /></td>
<td>HiPost</td>
<td></td>
</tr>
<tr>
<td><img src="image2" alt="" /></td>
<td>ME’MOIRE</td>
<td></td>
</tr>
<tr>
<td><img src="image3" alt="" /></td>
<td>POSTA</td>
<td></td>
</tr>
<tr>
<td><img src="image4" alt="" /></td>
<td>SticKit</td>
<td></td>
</tr>
<tr>
<td><img src="image5" alt="" /></td>
<td>STYX</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
<td></td>
</tr>
</tbody>
</table>
Please indicate the extent to which you agree or disagree with the following items

A listener should understand the intent of the speaker from the way the person talks.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

People understand many things that are left unsaid.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

Fewer words can often lead to better understanding.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

The context in which a statement is made conveys as much or more information than the message itself.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

Some ideas are better understood when left unsaid.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

It is very important to me to feel I am a part of a group.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

A person’s word is his bond and you need not spell out the details to make him behave as promised.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

Being able to work in harmony with others should at times come before doing the job well.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

I conform to social norms even when they conflict with my personal desires.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

In general, it is more important to understand my inner self than to be famous, powerful or wealthy.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree
I often feel left out of things going on around me.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

It is not wise to sacrifice one’s interests for the benefits of the organization he/she belongs.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

What is your age? _____________ years

Please indicate your gender

_____ Male

_____ Female

_____ I do not wish to disclose

Which one of the following represents your race? (Please select only one.)

_____ White

_____ Black or African American

_____ American Indian or Alaska Native

_____ Asian

_____ Native Hawaiian or Pacific Islander

_____ Hispanic or Latino

_____ Other (Please specify) __________________
Appendix B: Questionnaire used in Study 2

The following is an article about the importance of handwriting. Please take as much time as you need to read it. When you are finished, please answer the questions that follow.

Why handwriting is still important

It's probably been a long time since you put pen to paper to compose a letter, take notes, make a list, or sign a check.

The Writing Instrument Manufacturers Association started this holiday in 1977 to acknowledge the history and influence of penmanship. Its reason for being grows more urgent each year as pens, pencils and paper lose ground to the QWERTY keyboard.

The earliest forms of writing date approximately 5,000 years ago. Once upon a time, children learned how to write in cursive as part of handwriting lessons in school. Those lessons are falling by the wayside as states adopt Common Core standards, which only require manuscript handwriting instruction until the first grade and cursive instruction is not mandated at all.

Opponents of cursive instruction argue it is no longer relevant and classroom instruction is better devoted to other subjects, including digital proficiency.

While it's true that there are only so many classroom hours in the day, research shows there are still plenty of reasons to teach and practice legible penmanship.

Research shows that teaching handwriting skills benefit cognitive development and motor skills, and can lead to improved writing skills and reading comprehension. In other words, children not only learn to read faster when they learn to write by hand first, but research suggests they are also better at generating ideas and retaining information than children who do not practice handwriting.

A study published in 2006 that followed children in grades two to five showed that printing, cursive writing, and typing on a keyboard are associated with separate brain patterns and lead to different results. When children wrote text by hand, they produced more words faster than they did on a keyboard and expressed more ideas.
Further research suggests the benefits of handwriting continue into adulthood. A 2014 study, The Pen Is Mightier Than the Keyboard, demonstrated the advantage of longhand over laptop note-taking.

While we're not aware of scientific evidence supporting the warm feeling of receiving a handwritten thank you card or love letter, anecdotal evidence suggests there's something there.

To celebrate the occasion, people are sharing images of handwritten notes on social media using the hashtags #HandWritingDay and #NationalHandWritingDay. What do you have to share?

<table>
<thead>
<tr>
<th>Ad with scarcity message</th>
<th>Ad without scarcity message</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>Ad with scarcity message</td>
<td>Ad without scarcity message</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><img src="image1.jpg" alt="Ad with scarcity message" /></td>
<td><img src="image2.jpg" alt="Ad without scarcity message" /></td>
</tr>
<tr>
<td><img src="image3.jpg" alt="Ad with scarcity message" /></td>
<td><img src="image4.jpg" alt="Ad without scarcity message" /></td>
</tr>
</tbody>
</table>
How do you feel about the advertisement?

<table>
<thead>
<tr>
<th></th>
<th>Ad with scarcity message</th>
<th>Ad without scarcity message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td>1 2 3 4 5 6 7</td>
<td>Good</td>
</tr>
<tr>
<td>Favorable</td>
<td>1 2 3 4 5 6 7</td>
<td>Unfavorable</td>
</tr>
</tbody>
</table>

How do you feel about the brand?

<table>
<thead>
<tr>
<th></th>
<th>Ad with scarcity message</th>
<th>Ad without scarcity message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unappealing</td>
<td>1 2 3 4 5 6 7</td>
<td>Appealing</td>
</tr>
<tr>
<td>Positive</td>
<td>1 2 3 4 5 6 7</td>
<td>Negative</td>
</tr>
</tbody>
</table>
How do you feel about the advertised product?
Likable 1 2 3 4 5 6 7 Unlikable

How likely would you buy the product?
Very unlikely 1 2 3 4 5 6 7 Very likely

Please indicate how well each adjective describes what you are feeling at this moment.

Stimulated
Not at all 1 2 3 4 5 6 7 Very much

Aroused
Not at all 1 2 3 4 5 6 7 Very much
If you were offered to receive samples of the advertised candies, please indicate the number of advertised products you would like to receive. You can choose any item in combinations of FIVE (i.e., 5 of brand A, or 2 of brand A + 3 of brand B, or 1 for all five brands)

<table>
<thead>
<tr>
<th>Product</th>
<th>Scarcity message Condition</th>
<th>Non-scarcity message Condition</th>
<th>Number of item(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pop Craze (Limited Time Offer!)</td>
<td></td>
<td>Pop Craze</td>
<td></td>
</tr>
<tr>
<td>Rainbow (Limited Time Offer!)</td>
<td></td>
<td>Rainbow</td>
<td></td>
</tr>
<tr>
<td>Soothy Candy (Limited Time Offer!)</td>
<td></td>
<td>Soothy Candy</td>
<td></td>
</tr>
<tr>
<td>Sweet Gems (Limited Time Offer!)</td>
<td></td>
<td>Sweet Gems</td>
<td></td>
</tr>
<tr>
<td>Tasty Lolly (Limited Time Offer!)</td>
<td></td>
<td>Tasty Lolly</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>
Please indicate the extent to which you agree or disagree with the following items

A listener should understand the intent of the speaker from the way the person talks.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

People understand many things that are left unsaid.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

Fewer words can often lead to better understanding.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

The context in which a statement is made conveys as much or more information than the message itself.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

Some ideas are better understood when left unsaid.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

It is very important to me to feel I am a part of a group.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

A person’s word is his bond and you need not spell out the details to make him behave as promised.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

Being able to work in harmony with others should at times come before doing the job well.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

I conform to social norms even when they conflict with my personal desires.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree

In general, it is more important to understand my inner self than to be famous, powerful or wealthy.
Strongly disagree 1 2 3 4 5 6 7  Strongly agree
I often feel left out of things going on around me.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

It is not wise to sacrifice one’s interests for the benefits of the organization he/she belongs.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

What is your age? ____________ years

Please indicate your gender

_____ Male

_____ Female

_____ I do not wish to disclose

Which one of the following represents your race? (Please select only one.)

_____ White

_____ Black or African American

_____ American Indian or Alaska Native

_____ Asian

_____ Native Hawaiian or Pacific Islander

_____ Hispanic or Latino

_____ Other (Please specify) ____________________
Appendix C: Questionnaire used in Study 3

Please check where you position yourself on a series of descriptive scales. Be sure to respond to every scale and make a separate and independent judgment for each scale. Work at a fairly high speed through this questionnaire. Please do not be careless because we want your true impressions.

A listener should understand the intent of the speaker from the way the person talks.

Definitely no  1  2  3  4  5  6  7  8  9  Definitely yes

People understand many things that are left unsaid.

Definitely no  1  2  3  4  5  6  7  8  9  Definitely yes

Fewer words can often lead to better understanding

Definitely no  1  2  3  4  5  6  7  8  9  Definitely yes

The context in which a statement is made conveys as much or more information than the message itself.

Definitely no  1  2  3  4  5  6  7  8  9  Definitely yes

Some ideas are better understood when left unsaid.

Definitely no  1  2  3  4  5  6  7  8  9  Definitely yes

In general, it is more important to understand my inner self than to be a famous, powerful, or wealthy.

Definitely no  1  2  3  4  5  6  7  8  9  Definitely yes
Please take as much time as you need to evaluate the following advertisements. When you’re finished evaluating them, please answer the questions that follow.

<table>
<thead>
<tr>
<th>Ad with more sex appeal</th>
<th>Ad with less sex appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Dior Ad" /></td>
<td><img src="image" alt="Dior Ad" /></td>
</tr>
<tr>
<td><img src="image" alt="Forbidden Euphoria" /></td>
<td><img src="image" alt="Euphoria" /></td>
</tr>
<tr>
<td>Ad with more sex appeal</td>
<td>Ad with less sex appeal</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td><img src="image1" alt="Ad with more sex appeal" /></td>
<td><img src="image2" alt="Ad with less sex appeal" /></td>
</tr>
<tr>
<td><img src="image3" alt="Ad with more sex appeal" /></td>
<td><img src="image4" alt="Ad with less sex appeal" /></td>
</tr>
<tr>
<td>Ad with more sex appeal</td>
<td>Ad with less sex appeal</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td><img src="image1" alt="Ad with more sex appeal" /></td>
<td><img src="image2" alt="Ad with less sex appeal" /></td>
</tr>
</tbody>
</table>

**How do you feel about this ad?**

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

**How would you describe this ad?**

| Boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Not boring |
| Irritating | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Not irritating |
| Creative | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Not creative |
| Not attractive | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Attractive |
| Interesting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Not interesting |

**Please indicate the extent to which you feel you have previous experience with this brand**

| No previous experience | 1 | 2 | 3 | 4 | 5 | 6 | 7 | A lot of experience |

**Please indicate the extent to which you feel you are familiar with this product**

| Not familiar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely familiar |
Please indicate how you feel about this product

<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>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bad</td>
</tr>
<tr>
<td>Unfavorable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Favorable</td>
</tr>
<tr>
<td>Unlikable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Likable</td>
</tr>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
</tr>
</tbody>
</table>

You will buy this product in the near future.

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

What was your age on your last birthday? ____________ years

Please indicate your gender  ____Male  ____Female  ____I do not wish to disclose

Which one of the following represents your race? *(Please select only one.)*

____White
____Black or African American
____Asian
____Native Hawaiian or other Pacific Islander
____American Indian or Alaskan native
____Hispanic non-white or multiracial
____I do not wish to disclose
If you were offered to receive samples (.15 oz. each) of the advertised fragrance, please indicate the number of advertised brands you would like to receive. You can choose any item in combinations of FIVE (i.e. 5 of brand A, or 2 of brand A + 3 of brand B, or 1 for all five brands)

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Number of item(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dior - J’Adore</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calvin Klein - Euphoria</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Burberry - Boby</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tommy Hilfiger - Dreaming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marc Jacob - Daisy</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

Thank you for your participation!