THE EFFECTS OF BRAND NAME FLUENCY, ATTITUDE, AND ATTRIBUTE ACCESSIBILITY ON CONSTRAINED AND STIMULUS-BASED BRAND CHOICES: THE MODERATING ROLE OF THE LEVEL OF MOTIVATION AND OPPORTUNITY

by

Seh-Woong Chung

A thesis submitted in conformity with the requirements for the degree of Ph.D.
Rotman School of Management
University of Toronto

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ABSTRACT

This dissertation examines how fluency for brand names, attitude accessibility, and attribute accessibility influence brand choices that are made in different contexts. Further, the results of the dissertation demonstrate that the respective effects of these factors critically depend on the level of motivation and opportunity the consumer has when making the brand choice.

Drawing on the implicit memory framework, the first study examines how exposures to brand names affect subsequent brand choices under different levels of motivation and opportunity conditions. The results show that the brand choice made under low motivation and opportunity condition are sensitive to perceptual fluency, and thus are affected by the modality of exposure. The processing mode (conceptual vs. perceptual) is found to exert no influence on brand choice.

The second study extends the findings of the first study by incorporating attitude accessibility into the model of brand choice. This study finds that the attitude accessibility influences brand choices that are made under both low and high motivation
and opportunity conditions, but that perceptual fluency influences brand choices made only under low motivation and opportunity condition.

Finally, the results of the third study demonstrate that the stimulus-based choice is also subject to the influence of memory. Specifically, the third study shows that the stimulus-based choice is influenced by the accessibility of attribute in memory. Further, the results show that an unimportant attribute may exert disproportionate impact on the brand choice if that attribute is highly accessible in memory. The study identifies selective attention as the mechanism by which the unimportant attribute influences the brand choice.
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CHAPTER ONE

1.1 INTRODUCTION

Consumer behavior research on brand choice has been guided by the distinction between stimulus-based, memory-based, and mixed choices, which differ with respect to the amount of information available in the environment about the alternatives and their attribute values. The initial literature in consumer choice focused on the stimulus-based choice, where all the alternatives, along with their attributes, are physically available at the time of decision making. The initial goal of this research was to understand what decision rules individuals use to integrate attribute information in making a choice, however, the results of numerous studies indicate that individuals do not use fixed decision rules when making a choice (Payne, Bettman, and Johnson 1993). Instead, they use constructive processes. However, these processes are more likely to be attribute based early in the choice process and alternative based near the end of the process (e.g., Payne 1976).

With the recognition that very few consumer choices are made under pure stimulus-based conditions, research on consumer choice shifted to memory-based and mixed choice, where some or all of the alternatives and attribute information are not available in the environment, and therefore, must be retrieved from memory (Lynch and Srull 1982). Accordingly, studies in mixed and memory-based decision making focused on factors affecting the retrieval of alternatives, attributes, and attitudes from memory and their influence on choice (Alba, Hutchinson, and Lynch 1991). In general, mixed and
memory-based choices have been found to be influenced by the information available in memory that is accessible and diagnostic (e.g., Biehal and Chakravarti 1983; Lynch, Marmorstein, and Weigold 1988; Feldman and Lynch 1988; Nedungadi 1990).

While some consumer choices are purely memory-based, most consumer choices seem to be made in a 'mixed choice' situation, where "some of the relevant information is physically present, and some must be recalled from memory" (Alba, Hutchinson, and Lynch 1991, p.3). Typically, mixed choice has been investigated in the context in which all of the relevant information is physically available for some of the alternative brands while other brands must be recalled from memory along with the associated attribute information (e.g., Biehal and Chakravarti 1983; Dick, Chakravarti, and Biehal 1990). For instance, a 'mixed-choice' is made when a consumer must decide whether to buy one of the cameras physically available in store A or return to store B to buy a camera examined earlier (Alba, Hutchinson, and Lynch 1991). This line of research has focused on the interplay between the information stored in memory and the decision rules employed to combine the information in memory and in the environment (Biehal and Chakravarti 1986).

The above distinction among memory-based, stimulus-based, and mixed choices has usefully guided the research in brand choice; however, this distinction omits a type of choice that may be encountered in many purchase situations, where only the names of the alternatives are considered in making a choice. For many consumer purchases, either the attribute information associated with the alternatives is not available, or even when it is available, it is frequently not considered. While this type of choice may be regarded as a
type of mixed choice, it may be fruitful to consider it as a distinct category of choice for two reasons:

1. In the research on mixed choice, some attribute information is always available in the physical environment for some or all of the alternative brands. Thus, the situation in which no attribute information is present has not been explicitly considered as a category of brand choice.

2. Much grocery shopping is done under low level of motivation and/or in time pressure (Dickson and Sawyer 1990). In these situations, consumers routinely disregard the attribute information when making brand choices.

Given these reasons, the first two studies of this dissertation focus on the situation in which the consumer selects one of the brands among a set of brands that are presented without any attribute information. Since the process of brand choice in this situation may be constrained by a limited number of alternatives available and the absence of attribute information, this type of choice is referred to as 'constrained choice' in the current dissertation.

Examples of constrained choices may include many purchases in self-service stores (e.g., supermarkets) and vending machines. Further, many of the brand choices made by consumers do not involve careful scrutiny of information available either in the physical environment or in memory. Rather, as Dickson and Sawyer observed (1990), many consumer choices are made quickly and without much thought. Currently, we do
not have a good understanding of the factors that may affect brand choices that are made quickly and with little deliberation.

This dissertation seeks to explicitly identify factors that may affect brand choices made with differing levels of motivation and opportunity. In particular, the dissertation focuses on the potential roles of fluency for brand names, attitude accessibility, and attribute accessibility in influencing brand choices that are made under high and low levels of motivation and opportunity. In the section that follows, first conceptual and perceptual fluency are discussed in light of the relevant literature on implicit memory, and then the effect of motivation and opportunity on the processing and retrieval of information are discussed. This discussion is followed by a review of the literature regarding the effects of attitudes and attitude accessibility on decision making. Finally, this chapter concludes with a discussion of the potential effects of attribute accessibility on stimulus-based choice.

**Implicit vs. Explicit Measures of the Effects of Memory**

In order to systematically examine the potentially differential effects of past experience on constrained choices that are made under different levels of motivation and opportunity, this dissertation initially utilizes an implicit memory perspective. As a start, the dissertation examines the effects of earlier perceptual and conceptual processing of a brand name on subsequent, constrained choice.

On a daily basis, consumers are exposed to numerous brand names through various media advertisements, outdoor billboards, sports arenas, and TV shows and movies. While these exposures to brand names may affect brand choices by influencing
the memory measures conventionally used in marketing such as recall and recognition, their effects on brand choices may be more subtle, or 'implicit'.

Conventionally, memory tests, such as recall or recognition tests, consist of explicitly asking subjects to retrieve information about a particular event from memory. Recent developments in cognitive psychology, however, suggest that prior experience can have implicit, as well as explicit, effects on memory and behavior. It has, in fact, been recognized in cognitive psychology that people can be “unconscious of why they behave the way they do” (Bowers 1984; p. 245), and that some information can affect behavior even when individuals are unaware of being exposed to it (e.g., Jacoby and Kelley 1987). The unconscious, or implicit, influence of past exposure to stimuli is perhaps best revealed in a class of memory tests called implicit memory tests. Unlike the conventional, explicit memory tests that direct the subject to intentionally recollect past experience, implicit memory tests do not require reference to a prior study episode (Roediger 1990; Roediger and McDermott 1993; Schacter 1987). Subjects participating in implicit memory tests are simply told to perform tasks that presumably do not require conscious, or intentional, recollection of the past episode. The implicit role of memory is revealed in these tests by a change in the performance that is demonstrably attributable to the encoding of information in a prior study episode (Schacter 1987). This exposure-induced change in the performance unaccompanied by awareness is called ‘priming’ (Tulving and Schacter 1990).

Perceptual vs. Conceptual Implicit Tests

Numerous tests have been used to measure implicit memory, which can be broadly classified into two categories: perceptual implicit tests and conceptual implicit
tests (Blaxton 1989; Jacoby 1983; Tulving and Schacter 1990). The distinction between these two types of tests is important mainly because of the functional dissociations observed between these tests; that is, a number of variables (e.g., modality of presentation, levels of processing, typography) have been found to affect one type of implicit memory tests, while having no effect or the opposite effect on the other type of tests (for a review of the distinction between perceptual and conceptual priming, see Roediger and McDermott 1993).

Perceptual implicit tests, also referred to as data-driven tests (Blaxton 1989), are tests which require a reliance on the physical features of the test items. In perceptual implicit tests, stimuli presented for study (e.g., the word 'ELEPHANT') later occur in a perceptually degraded form at test. Examples of perceptual implicit tests include word stem completion (e.g., EL___), word fragment completion (e.g., -L--H--), and perceptual identification (identifying the word 'ELEPHANT' presented very briefly). These tests have been shown to be sensitive to changes in the physical features of the stimuli between study and test, such as picture/word manipulation (e.g., Srinivas and Roediger 1990), modality of presentation (Blaxton 1989: Experiment 2), and typography manipulation (Blaxton 1989: Experiment 3).

In contrast, conceptual implicit tests, also known as conceptually driven tests, reflect conceptual processes (Schacter 1987). In conceptual implicit tests, the stimuli presented at study are only conceptually related to the cues provided at test, and bear no resemblance to the stimuli (Blaxton 1989; Lee 1995; Roediger 1990). For example, the subject may be presented with the word 'ELEPHANT' for study and later be given a general knowledge question (e.g., what is the largest mammal?), a word fragment
completion (e.g., –M--L)\(^1\), or a category exemplar generation (e.g., generate exemplars for the category ‘MAMMALS’). These tests require conceptual elaboration of the stimuli at study, and are affected by variables that are also known to influence explicit memory tests, such as levels of processing (Blaxton 1989) and attentional manipulations (Gardiner and Parkin 1990; Parkin and Russo 1990).

Recently, a number of researchers in cognitive psychology have proposed and found evidence for the Transfer-Appropriate Processing model (Blaxton 1989; Morris, Bransford, and Franks 1977; Roediger and Blaxton 1987; Roediger, Weldon, and Challis 1989; Weldon 1991) to explain individuals’ performance on these different types of tests. Analogous to the encoding-specificity principle, which states that explicit memory performance is determined by the extent of match between the study conditions and retrieval conditions (Tulving 1985), the Transfer-Appropriate Processing model posits that the performance on implicit memory tests is enhanced to the extent that the types of mental operations performed at study overlap with those required at test.

For example, reading words at study leads to better performance on perceptual implicit tests than generating them from a conceptual cue at study (e.g., Jacoby 1983), since reading (vs. generating) involves perceptual processing of the stimuli, which in turn, creates perceptual fluency for the words. In a related study, Weldon and Roediger (1987, Experiment 4) had subjects study a list of stimuli presented either as pictures (e.g., the picture of elephant) or as words (e.g., the word ‘ELEPHANT’) and later presented them with one of two implicit memory tests: the word-fragment completion test and the

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\(^1\) One may note that the word fragment completion test can be used as both a perceptual implicit test and a conceptual implicit test. When it is used as a conceptual implicit test, it bears no physical resemblance to the study item. Yet the subject is more likely to complete the fragment ‘–M--L’ with ‘MAMMAL’ due to the exposure to the word ‘ELEPHANT’ during the study session.
picture-fragment naming test (i.e., naming the referent of the picture presented in a perceptually degraded form). They found that seeing the words at study produced better performance on word-fragment completion test than did seeing the pictures, whereas the opposite pattern occurred for the picture-fragment naming test. Both of these examples illustrate the basic notion of the Transfer-Appropriate Processing model that the match in mental operations performed at study (e.g., seeing pictures) and at test (e.g., naming pictures) influences the performance on implicit memory tests. The Transfer-Appropriate-Processing model has been shown to explain individuals' performance on different types of implicit memory tests, and to account for the dissociations in the effects of various experimental manipulations on the performance on implicit memory tests (e.g., Blaxton 1989; Roediger 1989; Roediger and McDermott 1993; Schacter 1987; Weldon 1991).

Brand choice may be viewed as an implicit memory test to the extent that it may be implicitly affected by earlier exposure to brand names even when the consumer is not aware of the fact that his/her choice is being influenced by the previous exposure. This is in line with Roediger and McDermott's (1993) definition of implicit memory tests that “...[E]very sort of judgment or test that is (a) affected by past experience, and (b) given under conditions in which subjects are not explicitly instructed to remember earlier events, would qualify (p.69)” as an implicit memory test.

**Perceptual and Conceptual Fluency**

Closely paralleling the distinction between the performance on perceptual and conceptual implicit tests is the distinction between perceptual fluency and conceptual fluency. Fluency refers to the ease of processing a stimulus, which results from prior
processing of the same stimulus (Jacoby & Dallas 1981). Research in cognitive psychology has identified two forms of fluency; perceptual fluency and conceptual fluency (Kelley and Jacoby 1998; Wagner and Gabrieli 1998). Perceptual fluency, or the ease of processing the perceptual aspect of the stimuli, results from prior processing of the perceptual features of the stimuli (e.g., shape, typography). Consequently, in order for perceptual fluency to occur, the modality of the stimuli when the initial processing occurs and when the stimuli are processed again must be the same. In contrast, conceptual fluency results from the prior processing of the conceptual aspect (i.e., meaning) of the stimuli. When this happens, both perceptual and conceptual fluency occurs if the modality of the stimuli are the same when initially processed and when processed a second time (Whittlesea 1993).

The repeated presentation of a stimulus and the resulting fluency in reprocessing the stimulus, creates a feeling of familiarity which, in turn, may affect a variety of stimulus judgments including preference judgments (e.g., Bornstein and D'Agostino 1994; Jacoby, Kelley, and Dywan 1989), judgments of visual clarity (Whittlesea, Jacoby, and Girard 1990), fame judgments (Jacoby, Woloshyn, and Kelley 1989), belief judgments (Hawkins and Hoch, 1992), and prettiness/ugliness judgments (Reber, Winkielman, and Schwarz 1998). In the first and the second studies of the current dissertation, we present results which suggest that brand choices made under certain conditions may also be influenced by the fluency with which the brands and the brand information are processed.
Motivation and Opportunity

Motivation and opportunity moderate the amount of cognitive effort that is used in making a choice. Motivation stems from the fear of invalidity (Kruglanski 1989) — the motivation to avoid an invalid conclusion because of the perceived costliness of making an error (Fazio and Towles-Schwen 1999; Sanbonmatsu and Fazio 1990). An increase in the fear of invalidity, and the accompanying increase in the level of motivation, affects both the amount and the direction of the cognitive effort used to make a decision. More specifically, as the level of motivation increases, the individual is expected to expend a greater amount of mental effort and to direct the attention to the information that is highly relevant to the decision at hand.

Opportunity refers to conditions in the environment which affect either the amount of resources or time available to make a choice. If opportunity is low, individuals have either limited resources or limited time available to make a choice. If opportunity is high, individuals may use all their resources and have an almost unlimited amount of time available to make a choice. Clearly, motivation and opportunity interact. Both high motivation and high opportunity are required for a careful and deliberate choice process (e.g., Sanbonmatsu and Fazio 1990).

When the levels of motivation and opportunity are high, choice represents a deliberative process in which the individual expends substantial cognitive effort. It is characterized by the scrutiny of available information, and a cost-benefit analysis of positive and negative features of the object (Fazio and Towles-Schwen 1999).

When the level of motivation and/or opportunity is low, choice is based on a spontaneous process which does not involve any deliberate reflection or reasoning. Thus,
choice is influenced by highly accessible information about the objects and the individual’s immediate perceptions of them, which, in turn, is based on any “momentarily salient, and potentially unrepresentative, features of the object” (Fazio and Towles-Schwen 1999, p.98). Although motivation and opportunity are typically examined at high and low levels, all choices should not be viewed as fitting into this dichotomy. Instead, they should be viewed as occurring along a continuum with high and low motivation and opportunity as end points of this continuum.

At the operational level, any situational factor that increases the fear of invalidity may enhance the motivational level (Kruglanski 1996). In particular, the ‘evaluation apprehension’ has been identified as one such factor (e.g., Sanbonmatsu and Fazio 1990); that is, the increase in the individual’s concern about how his/her decision would appear to other individuals has been shown to increase the level of motivation. Similarly, the opportunity to deliberate may be operationalized by a multitude of factors, including processing load, distraction, time pressure, and the level of arousal (Sanbonmatsu and Kardes 1988). In a number of studies, time pressure has been used to manipulate opportunity to use relevant information (e.g., Sanbonmatsu and Fazio 1990). The current dissertation employs both evaluation apprehension and time pressure to operationalize the level of motivation and opportunity.

**Attitude and Attitude Accessibility**

Past research in consumer behavior has shown that attitudes and the accessibility of the attitudes influence constrained choice (Berger and Mitchell 1989; Sanbonmatsu
The second study of this dissertation examines the effects of attitudes, attitude accessibility, and perceptual/conceptual fluency on constrained choice.

Attitude, defined as a summary evaluation of a product, has been a key concept in marketing and social psychology (e.g., Day and Deutscher 1982; Eagly 1992; Erickson and Johansson 1985; Fishbein and Ajzen 1974; Gardner 1985; Greenwald 1968; MacKenzie, Lutz, and Belch 1986; McGuire 1985). The importance of attitudes is rooted in the implicit assumption that attitudes are good predictors of actual behavior (e.g., brand choice); however, the empirical evidence regarding the attitude-behavior consistency shows that while the attitude-behavior link is generally positive, the strength of the association is weak in many situations (e.g., Smith and Swinyard 1983; Wicker 1969).

In response to these complexities in the attitude-behavior link, some researchers have focused on identifying the moderators of the attitude-behavior relationship (e.g., Schofield 1975; Snyder 1979; Zanna, Olson, and Fazio 1980; See, Fazio 1986, for a review). In particular, Fazio and his colleagues (Fazio 1986; Fazio, Powell, and Herr 1983; Fazio and Williams 1986) proposed a model that focuses on the process by which the attitude-behavior relation may be moderated by attitude accessibility. In this model attitude accessibility is defined as the strength of the association between the attitude and the attitude object in memory. According to the model, attitudes that are highly accessible are readily retrieved from memory upon observation of the attitude object. Once retrieved from memory, attitudes influence the individual's immediate perceptions of the attitude object in the environment and, accordingly, guide behavior. Hence, for an attitude to influence behavior, it must first be accessed from memory. Thus, the
accessibility of the attitude from memory is postulated as a critical determinant of whether the attitude influences the behavior.

Considerable empirical support for the above model has been found in social cognition (e.g., Fazio, Chen, McDonel, and Sherman 1982; Fazio and Williams 1986; Powell and Fazio 1984) and in marketing (e.g., Berger and Mitchell 1989; Fazio, Powell, and Williams 1989). The second study of the current dissertation examines the effects of attitude accessibility and perceptual fluency, and the moderating effects of motivation and opportunity on constrained brand choice.

Attribute Accessibility and Stimulus-Based Choice

While the first two studies of this dissertation examine constrained choices, the effects of attribute accessibility and the potential moderating role of motivation and opportunity are examined with respect to stimulus-based choice. In particular, the third study of this dissertation investigates how the accessibility of an attribute in memory may influence the stimulus-based choices, and how this process may be moderated by the level of motivation and opportunity.

Accessibility, often defined as the ease of retrieval (e.g., Lynch and Srull 1982; Menon, Raghurir, and Schwarz 1995), indicates "the activation potential of available knowledge, or the pre-stimulus preparedness for activation" (Higgins 1997, p.134). According to this definition, accessibility of a construct is determined prior to the stimulus presentation, and affects subsequent judgments of some relevant informational input.
Person perception research in social cognition indicates that people interpret ambiguous information about a person by using attributes which are made accessible in memory with priming (See, for example, Bargh 1982; Higgins and King 1981). In a typical example of this research (e.g., Bargh 1982; Higgins and King 1981; Srull and Wyer 1980), the subjects are presented with a word or group of words, which represent the positive (e.g., persistent, adventurous) or negative (e.g., stubborn, reckless) poles of personality traits. This constitutes the priming manipulation. In a subsequent, ostensibly unrelated task, the subjects are presented with an ambiguous description of a target person which can be equally interpreted as either of the two poles of the traits. These studies find that subjects tend to interpret the target person information according to the words that had been previously activated, demonstrating that priming-induced accessibility may affect the way in which subsequent, ambiguous information is interpreted.

Similar effects have also been shown in consumer research. Yi (1990), for example, primed the subjects with either ‘versatility’ or ‘ease of use’ of personal computers. The subjects primed with ‘versatility’ later interpreted the attribute, ‘numerous features’, as indicating that the personal computer was versatile, while the subjects primed with ‘ease of use’ interpreted the same attribute as indicating the computer is difficult to use. Although this research shows that the priming of attributes affects the interpretation of ambiguous stimuli (e.g., Bargh 1982; Higgins and King 1981; Srull and Wyer 1980), no effects have been found on judgments about unambiguous stimuli (Stapel, Koomen, and Van Der Pligt 1997).
While it is clear from the above review that the attribute accessibility affects the interpretation of incoming information, little research has been conducted on its effects on stimulus-based brand choice. The present dissertation investigates the effects of attribute accessibility on the stimulus-based brand choice. What role, and in what way, might a highly accessible attribute play in influencing the outcome of the stimulus-based brand choice? Further, how might these effects be moderated by the level of motivation and opportunity?

Summary

The issues described above are addressed by three studies in this dissertation. The first study is designed to address two issues: (a) to use the implicit memory literature to understand the effect of conceptual and perceptual processing during prior exposure to a brand name on constrained choice and (b) to examine the moderating effect of motivation and opportunity on constrained choice. The second study examines the potentially differential effects of fluency for brand names and attitude accessibility on constrained choices that are made under high and low levels of motivation and opportunity. Finally, the third study shifts the focus toward stimulus-based choice, and seeks to demonstrate that, contrary to current beliefs, stimulus-based choices are not free from the influence of memory factors such as the attribute accessibility. In particular, the third study examines the mechanism by which attribute accessibility may influence stimulus-based choice, and further identifies important moderators for the relationship between attribute accessibility and stimulus-based choice.
CHAPTER TWO

Study 1: Effects of Brand Name Exposure on Constrained Choice: An Implicit Memory Perspective

2.1 INTRODUCTION

Choices in consumer research have typically been categorized into stimulus-based choices and memory-based choices (e.g., Lynch and Srull 1982; Lynch, Marmorstein, and Weigold 1988; Alba, Marmorstein, and Chattopadhyay 1992). In stimulus-based choices, all the alternatives, along with their attributes, are physically present at the time of decision making in an alternative by attribute matrix.

It has been suggested, however, that in many real-life settings, consumers do not have such information available about the alternatives. Consequently, consumer researchers have become interested in memory-based choices, where the alternatives and relevant information about them must be recalled from memory (e.g., Alba, Marmorstein, and Chattopadhyay 1992; Lynch and Srull 1982). In memory-based choices, the consumer consciously retrieves information from memory, and the decision is made on the basis of the information that is accessible and diagnostic (Lynch, Marmorstein, and Weigold 1988). The information which forms the basis of the choice may consist of product attributes, or the product evaluation formerly formed and stored in memory.

Consumer decisions, however, also may be made under mixed choice conditions, where some alternatives are physically available while others must be retrieved from memory. Many real-life purchases are made in these circumstances, as when one looks at
several brands at one store, and later makes a purchase at another store (Lynch, Marmorstein, and Weigold 1988).

Further, consumer decision making often takes place in situations where the consumer expends little cognitive effort in making the decision. Consider the consumer who hurries into a store to buy a grocery item, say, spaghetti noodles. Further suppose that the purchase has to be very quick since, for example, the consumer has his/her car illegally parked on the street outside the store. He/she has limited knowledge in spaghetti noodles, and does not have a preferred brand. Without much knowledge, nor much time to think about it, the consumer runs to the spaghetti section, barely scans the shelf, and quickly grabs a brand that somehow catches his/her eye.

The conventional approach outlined above leaves unaddressed this kind of choice. His/her decision may be labeled as a ‘low-involvement’ decision making. With these types of choices, consumers rely more on peripheral cues than on attribute information (e.g., Petty, Caccioppo, and Schumann 1983), expend minimal time and effort in making purchase decisions (e.g., Dickson and Sawyer 1990), and the intensity of information search is reduced (Park and Hastak 1994). The consumer is not likely to actively engage in the conscious retrieval of information from memory when making choices, but may instead make choices based on brand familiarity or perceptual fluency (Lee 1995).

The current study aims to investigate how an incidental exposure to brand names can affect subsequent brand choices even when the consumer is not aware of the effect of the prior exposure. For this purpose, we utilize a framework recently developed in cognitive psychology, often referred to as an ‘implicit memory’ perspective, and
demonstrate how this framework can offer an insight for examining brand choices made under different levels of motivation and opportunity.

2.2 CONCEPTUAL BACKGROUND

Companies allocate an increasing amount of money each year to expose consumers to their brand names, and make substantial expenditures placing their products and brand names in movies, television shows, sports arenas, and outdoor billboards (Pracejus 1995). A few studies have examined the effectiveness of repeated brand name exposures on brand name recall (e.g., Nebenzahl and Hornik 1985) or recognition (e.g., Pham 1992). However, the ultimate effectiveness of this strategy should be gauged by whether the exposure increases the likelihood that these brands are chosen in subsequent purchase occasions.

Conventionally, memory tests, such as recall or recognition tests, consist of explicitly asking subjects to retrieve information about a specific event. Recent developments in cognitive psychology, however, suggest that prior experience can have implicit, as well as explicit, effects on memory and behavior. It has, in fact, been recognized in cognitive psychology that people can be "unconscious of why they behave the way they do" (Bowers 1984; p. 245), and that some information can affect behavior even when individuals are unaware of being exposed to it (e.g., Jacoby and Kelley 1987). The unconscious, or implicit, influence of past exposure to stimuli is perhaps best revealed in a class of memory tests called implicit memory tests. Unlike the conventional, explicit memory tests that direct the subject to consciously recollect past experience, implicit memory tests do not require reference to a prior study episode (Roediger 1990; Roediger and McDermott 1993; Schacter 1987). Subjects participating
in implicit memory tests are simply told to perform tasks that presumably do not require conscious, or intentional, recollection of the past episode. The implicit role of memory is revealed in these tests by a change in the performance that is demonstrably attributable to the encoding of information in a prior study episode (Schacter 1987). This exposure-induced change in the performance unaccompanied by awareness is called 'priming' (Tulving and Schacter 1990).

Numerous tests have been used to measure implicit memory, which can be broadly classified into two categories: perceptual implicit tests and conceptual implicit tests (Blaxton 1989; Jacoby 1983; Tulving and Schacter 1990). The distinction between these two types of tests is important mainly because of the functional dissociations observed between these tests; that is, a number of variables (e.g., modality of presentation, levels of processing, typography) have been found to affect one type of implicit memory tests, while having no effect or the opposite effect on the other type of tests (for a review of the distinction between perceptual and conceptual priming, see Roediger and McDermott 1993).

Perceptual implicit tests, also referred to as data-driven tests (Blaxton 1989), are tests which require a reliance on the physical features of the test items. In perceptual implicit tests, stimuli presented for study (e.g., the word ‘ELEPHANT’) later occur in a perceptually degraded form at test. Examples of perceptual implicit tests include word stem completion (e.g., EL___), word fragment completion (e.g., -L--H--), and perceptual identification (identifying the word ‘ELEPHANT’ presented very briefly). These tests have been shown to be sensitive to changes in the physical features of the stimuli between study and test, such as picture/word manipulation (e.g., Srinivas and Roediger...
1990), modality of presentation (Blaxton 1989: Experiment 2), and typography manipulation (Blaxton 1989: Experiment 3).

In contrast, conceptual implicit tests, also known as conceptually driven tests, reflect conceptual processes (Schacter 1987). In conceptual implicit tests, the stimuli presented at study are only conceptually related to the cues provided at test, and bear no resemblance to the stimuli (Blaxton 1989; Lee 1995; Roediger 1990). For example, the subject may be presented with the word 'ELEPHANT' for study and later be given a general knowledge question (e.g., what is the largest mammal?), a word fragment completion (e.g., --M--L)\(^2\), or a category exemplar generation (e.g., generate exemplars for the category 'MAMMALS'). These tests require conceptual elaboration of the stimuli at study, and are affected by variables that are also known to influence explicit memory tests, such as levels of processing (Blaxton 1989) and attentional manipulations (Gardiner and Parkin 1990; Parkin and Russo 1990).

Recently, a number of researchers in cognitive psychology have proposed and found evidence for the Transfer-Appropriate Processing model (Blaxton 1989; Morris, Bransford, and Franks 1977; Roediger and Blaxton 1987; Roediger, Weldon, and Challis 1989; Weldon 1991) to explain individuals' performance on these different types of tests. Analogous to the encoding-specificity principle, which states that explicit memory performance is determined by the extent of match between the study conditions and retrieval conditions (Tulving 1985), the Transfer-Appropriate Processing model posits

\(^2\) One may note that the word fragment completion test can be used as both a perceptual implicit test and a conceptual implicit test. When it is used as a conceptual implicit test, it bears no physical resemblance to the study item. Yet the subject is more likely to complete the fragment '---M--L' with 'MAMMAL' due to the exposure to the word 'ELEPHANT' during the study session.
that the performance on implicit memory tests is enhanced to the extent that the types of mental operations performed at study overlap with those required at test.

For example, reading words at study leads to better performance on perceptual implicit tests than generating them from a conceptual cue at study (e.g., Jacoby 1983), since reading (vs. generating) involves perceptual processing of the stimuli, the same type of processing required in perceptual implicit tests. In a related study, Weldon and Roediger (1987, Experiment 4) had subjects study a list of stimuli in either pictures (e.g., the picture of elephant) or in words (e.g., the word 'ELEPHANT') and later presented them with one of two implicit memory test: the word-fragment completion test and the picture-fragment naming test (i.e., naming the referent of the picture presented in a perceptually degraded form). They found that seeing the words at study produced better performance on word-fragment completion test than did seeing the pictures, whereas the opposite pattern occurred for the picture-fragment naming test. Both of these examples illustrate the basic notion of the Transfer-Appropriate Processing model that the match in mental operations performed at study (e.g., seeing pictures) and at test (e.g., naming pictures) influences the performance on implicit memory tests. The Transfer-Appropriate-Processing model has been shown to well explain individuals' performance on different types of implicit memory tests, and to account for the dissociations in the effects of various experimental manipulations on the performance on implicit memory tests (e.g., Blaxton 1989; Roediger 1989; Roediger and McDermott 1993; Schacter 1987; Weldon 1991).

The current study views brand choice as an implicit memory test in the sense that brand choice may be implicitly affected by earlier exposure to brand names even when
the consumer is not aware of the fact that his/her choice is being influenced by the previous exposure. This is in line with Roediger and McDermott's (1993) definition of implicit memory tests that "...[E]very sort of judgment or test that is (a) affected by past experience, and (b) given under conditions in which subjects are not explicitly instructed to remember earlier events, would qualify (p.69)" as an implicit memory test.

2.3 HYPOTHESES

Viewing brand choice from the implicit memory perspective allows us to develop and test a number of interesting hypotheses. In the current study, we focus on the choice situation in which the consumer is visually presented with the brand names, and is required to make a choice under either high or low motivation and opportunity condition. Under the condition of low motivation and opportunity, the consumer expends minimal time and effort in making a choice (Lee 1995; Park and Hastak 1994). In these situations, the consumer is least likely to resort to a systematic processing of brand information. Thus, brand choices under these circumstances may closely resemble perceptual implicit tests in the sense that these choices are likely to be based on the physical features of the brand names.

The Transfer-Appropriate Processing model outlined above implies, then, that conceptual processing of the brand names during prior exposure is neither necessary nor efficient when the choice is made under low motivation and opportunity conditions. Rather, the model suggests that a choice made under low motivation and opportunity would be sensitive to the modality of exposure (visual vs. auditory), a variable which has been found to affect perceptual implicit memory tests. As mentioned above, when
choices are made among a number of visually available alternatives, and are made under low motivation and opportunity conditions, they are likely to be based on the visual aspects of the products (Garber 1995), and therefore, require visual processing of the alternatives. Thus, companies would benefit only from visually (vs. auditorily) exposing consumers to their brand names prior to purchase occasions if the purchase of their products typically involves a choice among visually available alternatives and is likely to be made in low motivation and opportunity situations, such as in most grocery shopping occasions. This strategy of visual exposure insures the maximal match between mental operations during the exposure and subsequent choices, which, according to the Transfer-Appropriate-Processing model, enhances the performance on implicit memory tests.

In sum, given that: (1) the constrained choice under low motivation and opportunity conditions may resemble a perceptual implicit test, which is sensitive to modality of presentation, and (2) that the constrained choice involves a choice among visually available alternatives, only prior visual (vs. auditory) exposure to a brand name would influence the subsequent constrained choice. Thus,

**H1:** When brand choice is made under low motivation and opportunity conditions, prior visual exposure to a brand name will increase the likelihood that the brand is subsequently chosen. In contrast, prior auditory exposure to a brand name will not affect the likelihood that the brand is subsequently chosen.

In contrast, when brand choice is made in high motivation and opportunity situations, the consumer is more likely to engage in an active processing of the available information, is more inclined to expend time and effort to make an accurate decision, and is less prone to be affected by perceptual fluency (Lee 1995; Park and Hastak 1994). Thus, brand choice in high motivation and opportunity situations may closely resemble a
conceptual implicit test, and, therefore, is likely to be more conceptually based than perceptually based. For instance, when the level of motivation and opportunity is high when making a purchase decision, the consumer may rely on his/her knowledge about the brand names and the product categories, which is a conceptually based decision. Thus, under these circumstances, prior conceptual processing would match the processing requirement of choice, and therefore, exposure to a brand name is expected to affect brand choice only when the consumer conceptually processed the brand name during the exposure.

In sum, given that the constrained choice under high motivation and opportunity conditions may resemble a conceptual implicit test, it is expected to be affected by the mode of processing the brand names, but not by the modality of exposure. Thus,

**H2:** When brand choice is made under high motivation and opportunity conditions, prior conceptual processing of a brand name during exposure will increase the likelihood that the brand is subsequently chosen. In contrast, prior perceptual processing will not affect the likelihood that the brand is subsequently chosen.

### 2.4 EXPERIMENT

To test the above hypotheses, we manipulated both the conditions at exposure and at choice. High and low motivation and opportunity conditions were manipulated by varying the instruction and the amount of the time allowed for choice. Conditions at exposure were manipulated by varying the modality of the presented stimuli (visual versus auditory) and the type of processing induced (conceptual versus perceptual). Conceptual processing was induced by having the subjects judge when during the day each brand was most likely to be used. This instruction forces subjects to elaborate on
their knowledge about the brand names and product categories. Perceptual processing was induced by having the subjects count the number of vowels or syllables in the brand names. This task directs subjects to focus on the perceptual features of the brand names while preventing them from elaborating on the concept.

**Design.** The experiment comprised a 2 (Exposure Modality: Visual vs. Auditory) \( \times 2 \) (Processing Mode: Perceptual vs. Conceptual) \( \times 2 \) (Motivation and Opportunity: High vs. Low) between-subject factorial design.

**Manipulations.**

**Exposure Modality** Exposure modality was manipulated by varying the modality of the presentation of the brand names. For the subjects in the ‘visual exposure’ condition, a brand name from each product category was visually presented on the computer screen one at a time. For the subjects in the ‘auditory exposure’ condition, the brand names were auditorily presented one at a time by a cassette-tape player.

**Processing Mode** The subjects in the ‘perceptual processing’ condition were instructed to count the number of vowels in each brand name. In contrast, the subjects in the ‘conceptual processing’ condition were instructed to judge when during the day each brand was most likely to be used (i.e., Morning, Afternoon, Evening, or Night).

**Motivation and Opportunity** High and low motivation and opportunity conditions were manipulated by varying the instruction and the amount of the time allowed for choice. In the high motivation and opportunity condition, the choice set for each category stayed on the computer screen for 10 seconds, and the subjects were instructed to take as much time as they would like and think carefully about each choice. In contrast, for the subjects in the low motivation and opportunity condition, each choice set remained on the computer
screen for 3 seconds only, and the subjects were simply told to make each choice as quickly as possible.

**Subjects.** One hundred and twenty eight undergraduate business students from the University of Toronto participated in the experiment in exchange for course credit. For the pretest, a separate group of 58 undergraduate students in a management course was used.

**Stimuli.** Five brands (e.g., Dentyne) from each of fifteen product categories (e.g., chewing gum) were used as targets. The brands selected were based on a pretest, where participants were asked to list all the brands they would consider buying in each of the categories. For each product category, brands named with approximately comparable frequencies were chosen for the experiment, while the brands listed with frequencies distinctly lower or higher than other brands were dropped.

Brands from another set of five product categories were used for practice trials, and also to eliminate primacy effects. Brands from an additional ten product categories were used to eliminate recency effects. These additional brands also served as fillers, thereby increasing the number of brand names and product categories, which makes it more difficult for the subjects to remember which brands were presented during the exposure stage.

In both the exposure session and the subsequent choice session, the order of presentation of the target product categories was randomised across the subjects. Further, to remove an item effect, the brand being presented in the exposure session was randomly selected among the five brands in each product category. Thus, each subject was presented with a randomly selected brand in a given category, which later served as
his/her own target brand in that category. In addition, the position of the target brand within each product category was randomised across subjects in the brand choice stage.

**Procedure.** The different stages of the experimental procedure are shown in Figure 1. As a rule, the subjects participated in groups of two to four individuals, and were randomly assigned to one of the $2 \times 2 \times 2$ cells. On arrival, the subjects were seated in front of personal computers, which were used to present the stimuli. They were then told that they would be subjects in three short unrelated studies. Each of the three sessions had separate cover stories which were designed to conceal the relationship between exposure to particular brands and subsequent choices.

As indicated in Figure 1, the experiment comprised an exposure session, an unrelated filler task, and a choice task. For the exposure session, subjects were told that the researchers were interested in how consumers would process various brand names. For the subjects in the ‘visual exposure’ condition, a brand name from each product category was presented on the computer screen one at a time. For those in the ‘auditory exposure’ group, the brand names were auditorily presented one at a time by a cassette-tape player. Crossed with the manipulation of exposure modality, processing mode was also manipulated during the exposure session. The subjects in the ‘perceptual processing’ condition were instructed to count the number of vowels in each brand name while those in the ‘conceptual processing’ condition were told to judge when during the day each brand was most likely to be used (e.g., Morning, Afternoon, Evening, Night).
Following the exposure session, subjects engaged in an unrelated task that lasted for approximately five minutes. The purpose of this task was to erase short-term memory and to blur the connection between the exposure session and the choice session. For this task, the subjects read the cover story which stated that certain companies were interested in understanding consumer profiles, and were asked a number of questions about some demographic information (e.g., age, gender) and personal life-style (e.g., hobbies).

After completing the filler task, the subjects were given the choice task. In this task, the subjects were first presented with the five filler product categories, then with the fifteen target product categories, and finally with the ten filler product categories. The filler and target product categories remained the same as the ones used in the exposure session. The product categories appeared on the computer screen one at a time. A set of five brands from each of the thirty product categories was shown at one time, and the subjects' task was to choose which brand they would purchase from this set of five brands. Of the five brands in each product category, one was presented in the prior exposure session.

Finally, in order to measure demand characteristics, the subjects were asked at the end of the experiment to write down what they thought the purposes of the experiment were. Upon completing this, they were debriefed and dismissed.

**Dependent Measure.** The dependent measure was the number of times one of the primed brands was chosen. If there is no effect of exposure on the subsequent brand choice, the primed brands would be chosen three out of fifteen times, or one fifth of the time, since there were five brands per product category.
2.5 RESULTS

The subjects' responses to the demand characteristics question asked at the end of the experiment indicated that the attempt at concealing the relationship between exposure to particular brands and subsequent choices was successful. Only one subject indicated an awareness of this relationship. Data for this subject were dropped in the statistical analyses.

Table 1 shows the mean number of times subjects chose the brand names to which they were previously exposed during the study phase. Overall, a three-way ANOVA on the dependent variable with exposure modality, processing mode, and motivation and opportunity revealed a significant main effect for exposure modality (F=15.26, p=.000), such that subjects in the visual exposure condition had a significantly higher likelihood of subsequently selecting the preexposed brands than those in the auditory exposure condition (M\text{visual}=3.83 versus M\text{auditory}=2.83). The main effects for processing mode and for motivation and opportunity were not significant. The modality by motivation and opportunity interaction approached marginal significance, however, all the other two- and three-way interactions were not significant.
To determine whether choice of the pre-exposed brands was above chance levels (i.e., 3.0) in the different cells, a series of one-sample t-tests were performed. These tests revealed that choice of the pre-exposed brands was significantly above chance for the two cells in the 'Visual exposure/ Low motivation and opportunity' condition ($M_{\text{visual, perceptual, low motivation and opportunity}} = 4.13, t=2.52, p=0.02$; $M_{\text{visual, conceptual, low motivation and opportunity}} = 4.31, t=2.78, p=0.01$). None of the other cells was significantly above chance ($p > 0.05$).

The first hypothesis ($H_1$) predicted that modality of exposure would affect brand choice under low motivation and opportunity, but not under high motivation and opportunity. Planned comparisons revealed that the probability of choosing the previously exposed brands was higher for the visual exposure group than for the auditory exposure group, when the motivation and opportunity at choice was low ($M_{\text{visual, low motivation and opportunity}}=4.22$ versus $M_{\text{auditory, low motivation and opportunity}}=2.81$; $F_{1,120}=14.21; p=.00$). In contrast, visual exposure group and auditory exposure group differed only marginally when the motivation and opportunity at choice was high ($M_{\text{visual, high motivation and opportunity}}=3.44$ versus $M_{\text{auditory, high motivation and opportunity}}=2.84$; $F_{1,120}=3.06$, $p=.09$). Thus, support for $H_1$ was found in the sense that the modality of exposure had a greater impact on brand choice when the motivation and opportunity at choice was low than when it was high.

Inconsistent with $H_2$, which predicted that the conceptual processing of brand names during exposure would increase the likelihood of the pre-exposed brands being chosen under high motivation and opportunity at choice, no effect of processing mode (i.e., conceptual versus perceptual processing) was found in either motivation and opportunity.
opportunity condition. That is, under both high and low motivation and opportunity conditions, subjects who conceptually processed the brand names during the exposure did not subsequently choose the pre-exposed brands more frequently than those who perceptually processed them.

2.6 DISCUSSION

The results show that constrained brand choice made under low motivation and opportunity condition is affected by the modality of exposure (visual vs. auditory). Namely, constrained brand choice is influenced only by prior visual, but not by auditory processing of the brand names. In contrast, constrained brand choice made under high motivation and opportunity is not affected by prior processing of the brands. Neither the modality of exposure nor the processing mode (conceptual vs. perceptual) influences the choice under high motivation and opportunity.

The results pertaining to the choice under low motivation and opportunity provide partial support for what the TAP model would predict. Constrained choice under low motivation and opportunity is made on the basis of a quick and effortless, visual inspection of the alternatives. Consistent with the prediction of the TAP model, constrained choices made in this situation seem to be heavily data-driven, and hence, influenced by earlier visual exposure to the brand names with perceptual processing. However, inconsistent with the TAP model, constrained choice under these conditions is also influenced by earlier visual exposure to the brand names with conceptual processing. Also inconsistent with the TAP model, constrained choice under high motivation and opportunity, which was expected to be largely conceptually-based, is not affected by
prior processing of the brands even when the prior processing involved conceptual elaboration of the brands.

These findings may be also interpreted in light of the fluency which results from repeated processing of the stimuli. The fluency creates a subjective feeling of familiarity, which in turn, influences subsequent judgments about the stimuli including preference judgments (e.g., Bornstein and D'Agostino 1994; Jacoby, Kelley, and Dywan 1989), judgments of visual clarity (Whittlesea, Jacoby, and Girard 1990), belief judgments (Hawkins and Hoch, 1992), fame judgments (Jacoby, Woloshyn, and Whitehouse 1989), and prettiness/ugliness judgments (Reber, Winkielman, and Schwarz 1998). As aforementioned, perceptual fluency, or the ease of processing the perceptual aspect of the stimuli, results from a prior processing of the stimuli at a perceptual level, while conceptual fluency is created by prior processing of the stimuli at a conceptual level.

In the current experiment, prior visual presentation of the brand names with both perceptual and conceptual processing created perceptual fluency for these brand names at a visual level. One consequence of the perceptual fluency thus created is that the perceptually fluent stimulus appears to “jump out” at the individuals in subsequent encounters (Jacoby and Dallas 1981; Kelley and Jacoby 1998). Thus, it appears that individuals rely on perceptual features of the alternatives and select the brand that ‘pops out’, or that seems ‘perceptually familiar’, if they do not have the adequate opportunity, and are not highly motivated, to make a ‘reasoned’ choice (e.g., due to time pressure). This would account for the finding of only a modality effect with low motivation and opportunity. In contrast, if individuals are highly motivated and have ample opportunity when making the choice, their choice does not appear to be based on a fluency heuristic.
Thus, ease of processing the brand names, whether it occurs at a conceptual or at a perceptual level, does not influence the brand choice made by these individuals. This would account for the finding of no effects with high motivation and opportunity.

These conclusions are subject to a few major limitations. First, the current experiment does not provide a thorough test of the TAP model in the brand choice context as the current experiment only examines the constrained choice from a set of visually available alternatives. A complete test of the TAP model should include constrained choices that are made from sets of auditorily-presented alternatives.

Second, the results of the current experiment show that individuals with ample motivation and opportunity do not make brand choices on the basis of mere ease of processing the time of the day a brand is used. However, these results may be due to the fact that the manipulation of conceptual processing used in the current experiment failed to invoke the concept that is relevant to brand choices. Conceivably, this manipulation contains little evaluative implications. A manipulation of conceptual processing which creates fluency for the concept that contains evaluative implications may influence constrained choices under high motivation and opportunity conditions. This issue is addressed in the next chapter.
CHAPTER THREE

Study 2: Effects of Perceptual Fluency and Attitude Accessibility on Constrained Choice

3.1 INTRODUCTION

The results of the experiment in chapter 2 show that the brand choice may be influenced by the fluency for the brand names under low motivation and opportunity condition. When the level of motivation and opportunity is high, however, the fluency for the brand names has no effect on the brand choice. Thus, it appears that consumers with ample motivation and opportunity are not influenced by the mere ease of processing the brand names. Under these conditions, consumers may expend effort to retrieve other information about the alternatives, such as attitudes or attribute information.

The current study extends the results of the study in the previous chapter by examining the effects of fluency for brand names, attitudes and attitude accessibility on constrained choice. While the effects of attitudes and attitude accessibility (e.g., Berger and Mitchell 1989), the effects of attitudes as moderated by motivation and opportunity (e.g., Sanbonmatsu and Fazio 1990), and the effects of attitudes and brand accessibility (e.g., Posavac, Sanbonmatsu, and Fazio 1997) on constrained choice have been previously examined, no one has examined the effect of attitudes, attitude accessibility and fluency for brand names as moderated by motivation and opportunity on constrained choice.

In the next section, the theoretical framework and the experimental hypotheses for addressing these issues will be presented.
3.2 THEORETICAL FRAMEWORK

Attitudes, defined as summary evaluations of a product, have been a key concept in social psychology and marketing (e.g., Day and Deutscher 1982; Eagly 1992; Erickson and Johansson 1985; Fishbein and Ajzen 1974; Gardner 1985; Greenwald 1968; MacKenzie, Lutz, and Belch 1986; McGuire 1969) since it was generally assumed that attitudes are good predictors of actual behavior (e.g., brand choice). However, the empirical evidence regarding the attitude-behavior consistency shows that while the attitude-behavior link is generally positive, early research yielded conflicting findings on the strength of this relationship (e.g., Smith and Swinyard 1983, Wicker 1969).

In response to this identification of a weak attitude-behavior link, some researchers have focused on identifying the moderators of the attitude-behavior relationship (e.g., Schofield 1975; Snyder 1979; Zanna, Olson, Fazio 1980; See, Fazio 1986, for a review). In particular, Fazio and his colleagues (Fazio 1986; Fazio, Chen, McDonel and Sherman 1982; Fazio and Williams 1986) proposed a process model of the attitude-behavior relation where attitude accessibility is the key moderator. In this model attitude accessibility is defined as the strength of the association between the attitude and the attitude object. Attitudes that are highly accessible are retrieved from memory upon observation of the attitude objects. Once retrieved from memory, attitudes influence the individual's immediate perceptions of the attitude object in the environment and guide behavior. Hence, for an attitude to influence behavior, it must first be accessed from memory. Thus, attitude accessibility is postulated as a critical determinant of whether the attitude influences behavior. Considerable empirical support for this model has been
found in social cognition (e.g., Fazio, Chen, McDonel, and Sherman 1982; Fazio and Williams 1986; Powell and Fazio 1984) and in marketing (e.g., Berger and Mitchell 1989; Fazio, Powell, and Williams 1989).

**MODE model**

In the above model, however, the effect of motivation and opportunity on choice is not clear. This model rests on the critical assumption that behavior is influenced by the ‘immediate perception’ of the object in the environment, as an accessible attitude is postulated to affect choice through its effect on the immediate perception of the object. One may, then, conjecture that the level of motivation and opportunity may also impact on the extent to which attitude accessibility affects behavior, as the level of motivation and opportunity is likely to determine the degree to which the behavior is based on the immediate perception of the object.

Fazio and his colleagues have proposed the MODE model which predicts how the level of motivation and opportunity will influence the relationship between attitude accessibility and choice (Sanbonmatsu and Fazio 1990; Fazio and Towles-Schwen 1999). The MODE (Motivation and Opportunity as Determinants) model postulates that the levels of motivation and opportunity jointly determine whether the individual engages in a deliberative or a spontaneous processing of the available information.

When the level of motivation and opportunity is low, individuals expend very little effort in retrieving information about the alternatives from memory. Thus, choice is influenced by the immediate perceptions of the alternatives, and highly accessible information about the alternatives.
In contrast, when the level of motivation and opportunity is high, the behavior follows a deliberative process in which the individual expends substantial cognitive effort to retrieve attribute information about the alternatives from memory (e.g., Fishbein and Ajzen 1974). Consequently, under high motivation and opportunity, the choice process is characterized by the careful scrutiny of available information, and a cost-benefit analysis of positive and negative features of the object (Fazio and Towles-Schwen 1999).

Motivation to deliberate stems from the fear of invalidity (Kruglanski 1989)—the motivation to avoid an invalid conclusion because of the perceived costliness of making an error (Fazio and Towles-Schwen 1999; Sanbonmatsu and Fazio 1990). According to this model, the increase in the fear of invalidity, and the accompanying increase in the level of motivation, affects both the amount and the direction of the cognitive effort used to make a decision. More specifically, the individual is expected to expend greater amount of mental effort and to direct the attention to the information that is highly relevant to the decision at hand, as the level of motivation also increases.

The MODE model, however, recognizes that motivation to deliberate alone may not be sufficient, by itself, to lead to a deliberative processing. The opportunity to expend the mental effort required for scrutinizing on the available information must also exist in order for the deliberative processing to take place.

In sum, the MODE model postulates that, when making choices, the individual engages in a deliberative process only if the individual is highly motivated and has ample opportunity to scrutinize the available information. When either motivation or opportunity is insufficient, the choice process is likely to be based on a more spontaneous and simpler process.
In order to develop an integrative framework for investigating the respective
effects of fluency for brand names and the attitude accessibility, this dissertation utilizes
the MODE model. While proposed as a general model of choice, this model may have
greater implications for the examination of the constrained choice since the accessibility
of alternatives is not considered. Posavac, Sanbonmatsu, and Fazio (1997) has shown, for
instance, that there is a closer relationship between attitudes and choice with constrained
choice than with memory-based choice because the accessibility of the alternatives does
not affect choice.

At the operational level, any situational factor that increases the fear of invalidity
may enhance the motivational level (Kruglanski 1996). In particular, the ‘evaluation
apprehension’ has been identified as one such factor (Sanbonmatsu and Fazio 1990); that
is, the increase in the individual’s concern about how his/her decision would appear to
other individuals has been shown to increase the level of motivation. Similarly, the
opportunity to deliberate may be operationalized by a multitude of factors, including
processing load, distraction, and the level of arousal (Sanbonmatsu and Kardes 1988).
Recently, time pressure has been shown to be a factor influencing the opportunity to use
relevant information (Sanbonmatsu and Fazio 1990). The current dissertation employs
the evaluation apprehension and the time pressure to operationalize the level of
motivation and of opportunity, respectively.

Effects of Attitude Accessibility And Perceptual Fluency on Constrained Brand
Choice Made Under Low Motivation and Opportunity

When the consumer lacks the motivation and opportunity to deliberate when
making the brand choice, his/her decision making involves the spontaneous processing of
the available information, and is largely influenced by the perception of the alternatives in the immediate situation and highly accessible information about the alternatives. As a consequence, the brand choice made under low motivation and opportunity condition is likely to be based upon any "momentarily salient, and potentially unrepresentative, features" of the objects (Fazio and Towles-Schwen 1999).

Attitudes that are highly accessible in memory are thus expected to exert a greater influence on brand choices that are made under this condition. Evidence in previous research shows that highly accessible attitudes may be spontaneously activated from memory upon exposure to the object, and are thus more likely to guide brand perceptions and choices than less accessible attitudes (e.g., Berger and Mitchell 1989; Fazio, Powell, and Herr 1983; Fazio and Williams 1986; Sanbonmatsu and Fazio 1989). Further, evidence has also been found that individuals are likely to selectively attend to objects toward which they have highly accessible attitudes (Roskos-Ewoldsen and Fazio 1992). Given this body of evidence, attitude accessibility is expected to exert an influence on brand choices that are made under the condition of low motivation and opportunity.

If the attitudes are not highly accessible, the behavior under low motivation and opportunity conditions is expected to follow a spontaneous process that is nonattitudinally-based. Whatever features of the object and situation that attract attention will determine the individual's immediate perceptions and behavior (Fazio and Towles-Schwen 1999). Thus, as was shown by the experimental results of the previous chapter, the consumer is likely to make a choice based upon perceptual fluency, and choose the brand that 'catches the eye', or that somehow 'feels familiar' (See, also, Jacoby 1983). In other words, the consumer, under low motivation and opportunity situation, is likely to
base the choice on the perceptual features of the brand names, and choose the brand that visually ‘pops out’ among the alternatives (e.g., Garber 1995). Consequently, perceptual fluency for the brand name is expected to affect brand choices that are made under low motivation and opportunity condition.

In sum, decision making under low motivation and opportunity may be characterized by an indiscriminate use of highly accessible information about the object, any cues related to the object, or the immediate environment that direct spontaneous attention and perception. Thus, both the perceptual fluency for the brand names and the attitude accessibility are expected to influence the brand choice when the choice is made under low motivation and opportunity condition.

**Effects of Attitude Accessibility and Perceptual Fluency on Constrained Brand Choice Made Under High Motivation and Opportunity**

Under the condition of high motivation and opportunity, decision making involves an effortful process in which individuals deliberate about the information available in memory or in the environment. As a consequence of deliberative processing, consumers with ample motivation and opportunity are expected to retrieve more information, and be more discriminating about the usage of information when making brand choices. Brand choices made by these consumers, therefore, will probably not be influenced by the perceptual fluency for the brand names, as was shown by the results of the previous experiment. Presumably, the perceptual fluency for the brand names, or the ease of processing the brand names, contains no evaluative implications, and therefore, is
not used as an input to brand choices when the consumer has ample motivation and opportunity.

In contrast, attitude accessibility is likely to influence brand choices made by the consumer with ample motivation and opportunity. To the extent that one's evaluations of the brands play an important role in making brand choices, the accessibility of the attitudes are expected to influence brand choices as attitudes are summary evaluations stored in memory. As the consumer with ample motivation and opportunity is likely to consider the evaluative implications of the cues that are available when making the brand choice, highly accessible attitudes are expected to affect his/her choice.

This expectation is consistent with the extant literature (e.g., Berger and Mitchell 1989; Fazio, Powell, and Williams 1989; Fazio and Williams 1986). While the past research has not explicitly considered the effect of the level of motivation and opportunity on choice, the evidence suggests that attitude accessibility influences choices made under high motivation and opportunity conditions. Fazio and Williams (1986), for instance, showed that presidential voting was affected by the accessibility of the attitudes toward the candidates. Further, Berger and Mitchell (1989) and Fazio et al. (1989) demonstrated that constrained choice of actual products was influenced by attitude accessibility. To the extent that the choice of a President and the actual choice of products for consumption (vs. hypothetical, paper-and-pencil choice) reflect high motivation and opportunity conditions, these studies indicate that attitude accessibility influences choices under high motivation and opportunity conditions.
3.3 HYPOTHESES

The above reasoning allows one to develop and test interesting hypotheses regarding the effects of perceptual fluency for brand names and attitude accessibility on brand choices made under high and low motivation and opportunity conditions. Under low motivation and opportunity conditions, the consumer expends little time and effort in making the brand choice. Thus, the brand choice is likely to be based on highly accessible information about the objects and any features of the objects that draw attention. Accordingly, both perceptual fluency for the brand name and the attitude accessibility are expected to exert influence on the constrained brand choices made under low motivation and opportunity condition. Thus,

H1: When the constrained brand choice is made under low motivation and opportunity conditions, both perceptual fluency and attitude accessibility will affect the brand choice.

In contrast, under the high motivation and opportunity condition, the consumer is expected to consider the evaluative implications of the information available for making the brand choice. Thus, perceptual fluency for the brand names is not expected to exert any influence on the constrained brand choice while the accessibility of the attitudes toward the brands is expected to affect the choice. Thus,

H2: When the constrained brand choice is made under high motivation and opportunity conditions, attitude accessibility will affect the brand choice. Perceptual fluency will not affect the constrained brand choice made under high motivation and opportunity condition.
3.4 EXPERIMENT

In order to test the hypotheses, perceptual fluency for the brand name, attitude accessibility, and motivation and opportunity were manipulated in the experiment. Perceptual fluency for brand name and attitude accessibility were manipulated prior to the brand choice while motivation and opportunity were manipulated during the brand choice. Subjects learned information about four hypothetical brands of portable cassette player (Walkmans), and formed attitudes toward them. The brand information was constructed such that one of the four brands was described to be superior to the other three, and a second brand to be superior to the remaining two. The subjects were then given questions intended to heighten the perceptual fluency and/or attitude accessibility for the second best brand. Finally, the subjects made a constrained choice under either high or low motivation and opportunity conditions. The proportion of subjects choosing the second best brand was then analysed as a function of perceptual fluency, attitude accessibility, and motivation and opportunity.

**Design.** The experiment comprised a 2 (Perceptual Fluency: High vs. Low) × 2 (Attitude Accessibility: High vs. Low) × (Motivation/Oppportunity: High vs. Low) between-subjects design.

**Manipulations.**

**Perceptual Fluency** Perceptual fluency was manipulated by showing the subjects four questions regarding the physical features of the brand name associated with the second best brand (e.g., Does the brand name JURAT contain 2 vowels?). These four questions were embedded in a set of twenty general knowledge questions.
Attitude Accessibility Attitude accessibility was manipulated by repeated attitudinal expression (Berger and Mitchell 1989; Fazio, Powell and Williams 1989; Roskos-Ewoldsen and Fazio 1992). Specifically, the subjects were asked four evaluative questions about the second best brand (e.g., Did you like the JURAT brand?). These attitude questions were embedded in a set of twenty general knowledge questions. In order to keep the subjects from obtaining visual exposure to the brand names, and thereby gaining perceptual fluency, these questions were auditorily presented to the subjects using a cassette-tape player.

Motivation and Opportunity Motivation and opportunity was manipulated by fear of invalidity and time pressure (Sanbonmatsu and Fazio 1990). Specifically, the subjects in the high motivation and opportunity condition were told that one of the four Walkman brands was clearly superior to the other brands, and that if they picked the best brand, they would be entered in a lottery with a chance to win $25. They were also instructed to take as much time as needed to make the choice. The subjects in the low motivation and opportunity condition were not told about the lottery. Instead, these subjects were simply told to make the choice quickly, and were given 3 seconds to complete the Walkman choice.

Subjects. One hundred twenty eight undergraduate business students from the University of Toronto participated in the experiment in exchange for course credit.

Stimuli. The stimuli were from four hypothetical brands of Walkman that varied with respect to five attributes: sound quality, treble and base adjustment, battery life, metallic or plastic case, and color of case.
Four descriptions were created for these four walkman brands. One description was constructed to be superior to the other three on all attributes, and a second description to be superior on all attributes to the remaining two. The descriptions were pretested to ensure that the evaluations of each description were significantly different from each other. In the pretest, thirty-nine undergraduate students in a marketing course were asked to evaluate each description on two seven-point scales anchored by 'Good-Bad' and 'Like-Dislike'. The pretest subjects first read each description, which appeared on a separate page of the questionnaire booklet. They then saw each description again on a separate page and evaluated it on the two scales. The means of the four descriptions were 2.81, 2.34, 0.34, and -0.54, respectively, all of which were significantly different from each other (p < 0.03).

Five-letter nonsense words were used as brand names: LITAS, SIGIL, JURAT, HEXAD. They were pretested to ensure that they had no meaning to the subjects and were evaluated neutrally. The brand names were randomly assigned to the descriptions for each subject.

**Procedure.** The subjects participated in the experiment individually, and were randomly assigned to one of the $2 \times 2 \times 2$ cells.

On arrival to the lab, the subjects were seated in front of a table and were told that they would be participating in three short, unrelated studies. Each of the three studies had separate cover stories.

**Study One Procedure.** The first study involved three phases: (1) learning the four brand names (2) forming attitudes toward the four brands, and (3) the manipulation of perceptual fluency and attitude accessibility. First, the subjects were given the cover story
that the researchers were interested in understanding consumer responses to numerous new products that are introduced each year. They were then told that they would be given information about some new products and that they would later be asked questions about these products. Next, the subjects were told that they were to learn and memorize four brand names. The four brand names were presented twice by a cassette player. The subjects were then asked to recall the four brand names by orally reporting the names back to the experimenter. To ensure that the subjects learn the brand names, they heard the brand names again if they did not correctly recall all four brand names. Upon successful recall of the four brand names, they continued to the next phase of the study.

In the second phase of the first study, the subjects formed attitudes toward the four Walkman brands based on the descriptions about the four brands. To achieve this, the subjects were shown the brand descriptions three times. An overhead projector was used to show the descriptions on a screen. First, they were shown the four descriptions of the Walkman brands without the brand names. The descriptions were presented one by one, and the subjects were asked to read each one carefully. Then, the subjects were shown the four descriptions again with the brand names; that is, they were shown each description which was randomly associated with one of the four Walkman brand names. Finally, to ensure that the subjects formed an attitude toward each brand, they were shown the descriptions again with the brand names and were asked to indicate on a sheet whether each one was a ‘good’ or a ‘bad’ Walkman. Upon completion of this task, the subjects continued to the final phase of the study.

In the final phase, the subjects were given a set of twenty questions. These questions were used to manipulate the perceptual fluency for brand names and attitude
accessibility. For the subjects in the ‘high perceptual fluency’ condition, the twenty questions were shown on the screen one by one, and four of these questions regarded the brand name associated with the second best description. These questions induced the subjects to focus on the perceptual features of the brand name (e.g., ‘Does the brand name JURAT contain 2 vowels?’ ‘Does the brand name JURAT contain two R’s?’). For the subjects in the ‘low perceptual fluency’ condition, none of the twenty questions was concerned with the target brand name. For the subjects in both the high and low perceptual fluency conditions, the twenty questions were shown one by one on the screen by an overhead projector. The subjects recorded the answers to each question on a sheet provided by the experimenter.

Crossed with the manipulation of the perceptual fluency, the manipulation of attitude accessibility was achieved by repeated attitudinal expression. Repeated attitudinal expression has been shown in the past research to increase the accessibility of the attitudes (See, for example, Berger and Mitchell 1989; Fazio, Powell and Williams 1989; Roskos-Ewoldsen and Fazio 1992). For the subjects in the ‘high attitude accessibility’ condition, a set of twenty questions were played on the cassette-tape player, and four of these twenty questions asked the subjects to express their attitude toward the brand name associated with the second best description (e.g., Did you like the JURAT brand? Is JURAT a good Walkman?). For the subjects in the ‘low attitude accessibility’ condition, none of the twenty questions regarded the target brand name. For the subjects in both the high and low attitude accessibility conditions, the questions were auditorily presented by a cassette player in order to keep the subjects from attaining visual exposure to the brand names.
Following this part of the study, the entire procedure was repeated again with a different set of four hypothetical brands of Walkman. This was done to create interference, thereby making the original set of information more difficult to retrieve. The subjects were then thanked and were told that this was the end of the first study.

**Study Two Procedure**

Next, they were given an unrelated filler task that lasted for approximately five minutes. The purpose of this task was to erase the effects of short-term memory and to blur the connection between the first study and the subsequent choice study. For the filler task, the subjects read the cover story which stated that certain companies were interested in understanding consumer profiles, and were given a booklet which contained a number of self-report questions about demographic information (e.g., age, gender, native language) and personal life-style (e.g., hobbies).

**Study Three Procedure**

After completing the filler task, the subjects were given the choice task. The cover story for this task stated that the researchers were interested in understanding which brands individuals would purchase from a number of product categories. For the choice task, the subjects were given five product categories. The third product category was the critical Walkman category. For each product category, a set of four brand names was shown on the screen and the subjects' task was to choose which brand they would purchase from this set of four brands if all the brands had the same price. After they were done with making their choices for the five product categories, they were shown the brand names in each product category again, and were asked to indicate their second choices if their first choices were not available in the store.
Finally, in order to measure demand characteristics, the subjects were asked at the end of the experiment to write down what they thought the purposes of the experiment were. Upon completing this, they were debriefed and dismissed.

Dependent Variable. The proportion of subjects who chose the second best brand was employed as the critical dependent measure, since the manipulations of perceptual fluency for brand names and the attitude accessibility were performed on this brand. This proportion indicates the extent to which each experimental factor affects the brand choice.

3.5 RESULTS

The subjects' responses to the demand characteristics question asked at the end of the experiment indicated that the attempt at concealing the relationship between the experimental manipulations and the choice task was successful; no subject indicated an awareness of this relationship.

Figure 2 shows the percentages of subjects who chose each type of brand (i.e. the best brand, the second best brand, and the poor brands) in the low motivation and opportunity condition. Logistic regression analysis was performed on these data. Planned comparisons of these data indicated support for the hypotheses. Consistent with H1, both perceptual fluency (Wald $\chi^2_{df=1} = 6.52, p = .01$) and attitude accessibility (Wald $\chi^2_{df=1} = 4.51, p = .03$) influenced the brand choices that were made under the low motivation and opportunity condition. These two factors did not interact (Wald $\chi^2_{df=1} = 1.45, p > .20$). The main effect of perceptual fluency under low motivation and opportunity is due to a greater proportion of subjects choosing the second best brand when perceptual fluency
for this brand name was high than when it was low (63% vs. 31%, p<.05). The main
effect of attitude accessibility under low motivation and opportunity is due to a greater
proportion of subjects choosing the second best brand when attitude accessibility for this
brand was high than when it was low (59 % vs. 34%, p<.05). Thus, H1 was supported.

Figure 2 about here

Figure 3 shows the percentages of subjects who chose each type of brand (i.e. the
best brand, the second best brand, and the poor brands) in the high motivation and
opportunity condition. Consistent with H2, attitude accessibility affected the brand choice
(Wald $\chi^2_{df=1} = 7.38$, p = .00) made under high motivation and opportunity conditions. A
greater proportion of subjects in the high attitude accessibility condition chose the second
best brand than did the subjects in the low attitude accessibility condition (59% vs. 25%,
p<.05). In contrast, perceptual fluency had no effect under high motivation and
opportunity conditions (Wald $\chi^2_{df=1} = 0.07$, p = .80). Perceptual fluency and attitude
accessibility did not interact under these conditions (Wald $\chi^2_{df=1} = 0.07$, p = .80). Thus,
H2 was also supported.

Figure 3 about here
Next, in order to analyse the subjects' first and the second choices together, each subject was given a score of 3 if they selected the brand associated with the second best description as the first choice and a score of 1 if they selected it as a second choice. All other choices were recorded as 0. Figure 4 shows these data.

A three-way ANOVA on these data indicated a significant main effect for attitude accessibility ($F_{1,120} = 12.79$, $p = .001$), and a marginally significant two-way interaction between perceptual fluency and motivation and opportunity ($F_{1,120} = 3.46$, $p = .06$). All other main effects and interactions did not reach significance.

To investigate whether the pattern of data corresponds to the predicted pattern of means, planned comparisons were performed. These analyses indicate that, in the low motivation and opportunity condition, both perceptual fluency and attitude accessibility had a significant main effect on choice ($F_{1,120} = 4.09$ and $4.95$, respectively, both $p < .05$). These two factors did not interact ($F_{1,120} = 0.66$, $p = .42$). These findings clearly support H1.

For high motivation and opportunity condition, planned comparisons revealed that attitude accessibility had a significant effect on choice ($F_{1,120} = 8.02$, $p < .01$), but perceptual fluency had no effect ($F_{1,120} = .37$, $p > .10$). These two factors did not interact ($F_{1,120} = 0.00$, $p = 1.0$). These results support H2.
In sum, both the analysis of the first choice and the analysis of the first and the second choices combined clearly lend support for H1 and H2. Specifically, the brand choice made under low motivation and opportunity condition was influenced by both perceptual fluency and attitude accessibility while the brand choice made under high motivation and opportunity was affected only by attitude accessibility.

3.6 DISCUSSION AND CONCLUSION

The results of the study presented here indicate that brand choice made under low motivation and opportunity condition is influenced by both perceptual fluency and attitude accessibility while brand choice made under high motivation and opportunity condition is affected only by attitude accessibility. According to the results of the current study, the consumers under low motivation and opportunity are likely to make a brand choice based on; (i) whether the brand name pops out among the set of alternatives (i.e., perceptual fluency) or (ii) whether the attitude toward the brand easily comes to mind (i.e., attitude accessibility). Given that the effect of perceptual fluency is as large as that of attitude accessibility, it appears that the consumers in this condition do not consider the evaluative implications of the cues.

In contrast, the consumers under high motivation and opportunity rely only on the attitude accessibility toward the brands, but not on the perceptual fluency for the brand names. Thus, it appears that, while the consumers under high motivation and opportunity conditions can overcome the immediate influence of perceptual fluency, they do rely on a heuristic cue if the cue contains evaluative implications. Further, the results also suggest that, even when consumers are under high motivation and opportunity conditions, the
accessibility of the attitudes, rather than the attitudes themselves, may exert a greater influence on brand choice. While the subjects under high motivation and opportunity condition did tend to the choose the best brand (66%) when the accessibility of the attitude toward the second best brand was not highly accessible, nearly 60% of the subjects chose the second best brand at the expense of the best brand if the accessibility of the attitude toward the second best brand was highly accessible.

Not only are the results of this study consistent with the findings of the previous research regarding the effect of attitudes and attitude accessibility on constrained choice (e.g., Berger and Mitchell 1989; Fazio 1986; Fazio, Chen, McDonel, and Sherman 1982), they also extend these findings by demonstrating that they occur under both high and low motivation and opportunity conditions. The study also indicates that attitudes may have little effect on brand choice if they are not highly accessible under low motivation and opportunity condition. Only when the consumer is under high motivation and opportunity condition, do the attitudes influence the brand choice. However, even when the consumer is in the high motivation and opportunity situation, the influence of the accessibility of the attitudes seems to outweigh the influence of the attitudes themselves.

While the study reported here presents interesting results regarding the role of attitude accessibility under differing levels of motivation and opportunity, future research should extend these findings by investigating the effect of the attitude accessibility of negative attitudes on brand choice under differing levels of motivation and opportunity conditions. The current study indicates that consumers may choose a less preferred brand when the attitude toward that brand is made highly accessible. Future research should
examine the pattern of brand choice under high and low motivation and opportunity conditions when the attitude accessibility is heightened for a poorly-evaluated brand.
CHAPTER FOUR

Study 3: Effects of Attribute Accessibility, Amount of Information, and Motivation and Opportunity on Stimulus-based Brand Choice

4.1 INTRODUCTION

A distinction has been made in consumer research between memory-based choice and stimulus-based choice (e.g. Alba, Hutchinson, and Lynch 1991; Lynch and Srull 1982; Lynch, Marmorstein, and Weigold 1988; Alba, Marmorstein, and Chattopadhyay 1992). In memory-based choice the alternatives and relevant information about them are not physically available at the time of choice. The consumer, therefore, must retrieve information from memory, and make the choice based on the information that is accessible and diagnostic. In contrast, in stimulus-based choice all the alternatives, along with their attributes, are physically present at the time of choice, and the brand choices are assumed to be based on the scrutiny of this information.

Consumer research has been profitably guided by the clear distinction between memory-based choice and stimulus-based choice. This distinction, however, omits an issue. Implicitly assumed in this distinction is the notion that the two types of choices are guided by separate principles, and, therefore, the factors affecting the memory-based choice would not have much effect in the stimulus-based choice. In memory-based choice, for instance, accessibility of various types of information in memory has been found to be one of the most important factors affecting which alternative is chosen. The research on accessibility, however, has largely been limited to the memory-based choice. The research on stimulus-based choice has focused primarily on how individuals process the externally available information. This is the consequence of assuming that stimulus-
based choice is not affected by memory factors. Consequently, little attention has been
directed on the potential effect of these factors on stimulus-based choice. The objective
of this study is to examine the effect of one of these factors, attribute accessibility, on
stimulus-based choice.

In the study reported here, it is argued and shown that the stimulus-based choice
may also be influenced by the accessibility of attribute information. Attribute
accessibility, or the ease with which a particular attribute is retrieved from memory, may
guide stimulus-based choice in a top-down fashion by restricting the consumers' attention to the attribute information of the most accessible attribute in memory.

In sum, the critical research questions to be addressed in this study are: ‘Does the accessibility of an attribute in memory affect stimulus-based choice? How, and under what conditions, might the attribute accessibility influence the outcome of the stimulus-based choice?’

The present study attempts to address these questions by focusing on the effect of attribute accessibility on selective attention and perceived attribute importance. Further, the amount of information provided and the level of motivation and opportunity are identified as potential moderators of the role of the attribute accessibility in affecting stimulus-based choice. In the section that follows, the literature addressing each of these notions will be reviewed, and a conceptual model will be presented based on this review.
4.2 THEORETICAL FRAMEWORK

Attribute Accessibility

Accessibility, often defined as the ease of retrieval (e.g., Lynch and Srull 1982; Menon, Raghubir, and Schwarz 1995), indicates "the activation potential of available knowledge, or the pre-stimulus preparedness for activation" (Higgins 1997, p.134). According to this definition, accessibility of a construct is determined prior to the stimulus presentation.

Person perception research in social cognition indicates that people interpret ambiguous information about a person by using attributes which are made accessible in memory with priming (See, for example, Bargh 1982; Higgins and King 1981). In a typical example of this research (e.g., Bargh 1982; Higgins and King 1981; Srull and Wyer 1980), the subjects are presented with a word or group of words, which represent the positive (e.g., persistent, adventurous) or negative (e.g., stubborn, reckless) poles of personality traits. This constitutes the priming manipulation. In a subsequent, ostensibly unrelated task, the subjects are presented with an ambiguous description of a target person which can be equally interpreted as either of the two primed traits. These studies find that subjects tend to interpret the target person information according to the words that had been previously activated, demonstrating that priming-induced accessibility may affect the way in which subsequent ambiguous information is interpreted. Similar effects have also been shown in consumer research. Yi (1990), for example, primed the subjects with either 'versatility' or 'ease of use' for personal computers. The subjects primed with 'versatility' later interpreted the attribute, 'numerous features', as
indicating that the personal computer was versatile, while the subjects primed with 'ease of use' interpreted the same attribute as indicating the computer is difficult to use. Although this research shows that the priming of attributes affects the interpretation of ambiguous stimuli (e.g., Bargh 1982; Higgins and King 1981; Srull and Wyer 1980), no effects have been found on judgments about unambiguous stimuli (Stapel, Koomen, and Van Der Pligt 1997).

While it is clear from the above review that the attribute accessibility affects the interpretation of information about a person or an object, little research has been conducted on its effects on choice processes in a stimulus-based brand choice context. The present study focuses on the effects of attribute accessibility on stimulus-based brand choice. What role, and in what way, might a highly accessible attribute play in influencing the outcome of the stimulus-based brand choice, and what mechanism might account for that influence?

**Effects of Attribute Accessibility on Selective Attention**

It is proposed and tested in an experiment that the heightened accessibility of an attribute may influence stimulus-based choice by causing individuals to initially focus their attention on the information pertaining to this attribute. Due to this attentional advantage, the highly accessible attribute may exert disproportionate impact on the stimulus-based brand choice compared to other attributes that are equally or more important, but less accessible.

The role of selective attention in influencing judgment and decision making has long been recognized in marketing (e.g., Kahneman and Treisman 1984; Kardes 1994). But much of the past research in marketing has been guided by the assumption that
consumer brand choices are determined by the importance of product attributes and the utilities associated with the levels of the attributes (e.g., Green 1984). Consequently, many of the choice rules developed in the literature posit that, in general, the brand that has the highest levels of the most important attributes would be most likely to be chosen by the consumer. While many brand choices may be made in this manner, there have been some recent findings which suggest that attribute importance may not necessarily be a good predictor of brand choice. Keller and McGill (1994), for instance, showed that an easily imageable attribute, rather than the attribute generally assessed as important, could exert a disproportionate amount of influence on the evaluation of alternatives despite its low assessed importance.

Here we argue that the effect of attribute accessibility in stimulus-based choice is to differentially draw attention to the information pertaining to this attribute. The definition of accessibility as 'activation potential' or 'the readiness with which a construct in memory can be utilized in processing incoming information' (Sanbonmatsu and Fazio 1991) is in line with Bruner's (1957) notion of perceptual readiness, where he defined accessibility in terms of the likelihood that stored knowledge would be used in processing the stimulus information. Consequently, if the accessibility of an attribute is sufficiently high, that attribute might initially obtain selective attention, and therefore, may be more likely to be used in stimulus-based choice.

While the effect of attribute accessibility on stimulus-based choice has not been investigated in the literature, initial evidence suggests that individuals may focus on the accessible attribute when evaluating a brand. For instance, Ratneshwar et al. (1990) presented evidence that subjects, when making an attitudinal judgment, selectively
attended to the attributes that were highly accessible. In particular, Ratneshwar et al.
found that the subjects for whom the attribute 'friendly employees' was highly accessible
selectively attended to this attribute when making an attitudinal judgment about a bank.
Similarly, Shavitt and Fazio (1991) found that the attitudes toward beverage brands (i.e.,
Perrier and 7-Up) were influenced by which attribute was more accessible. Specifically,
Perrier was evaluated more positively when the accessibility of social impression
attribute was heightened than when the accessibility of taste attribute was heightened. In
contrast, 7-Up was evaluated higher when the accessibility of good taste was heightened
than when the accessibility of social impression attribute was heightened (Shavitt and
Fazio 1991, Study 1). Taken together, these studies show that evaluations of brands are
significantly affected by which attribute is made more accessible, suggesting that more
attention is given to the accessible attribute, “giving it a greater-than-usual influence on
the judgment of an object” (Shavitt and Fazio 1991, p.508).

Effects of Selective Attention on Perceived Attribute Importance

The selective attention to the highly accessible attribute may increase the
perceived importance of the attribute. Some evidence has been reported in consumer
research indicating that increasing the amount of attention given to a particular attribute
also tends to increase the importance rating given to that attribute (Gardner 1983;
Mackenzie 1986).

Gardner (1983), for example, found initial evidence that the manipulation of the
prominence of a product attribute affected the amount of attention given to the attribute,
which in turn, affected the importance rating of the attribute. As a consequence, the
critical attribute had a greater influence on product evaluation when it was prominent
than when it was not prominent. MacKenzie (1986) investigated the mechanisms
involved in the role of attribute prominence in affecting brand evaluations, and observed that increasing the amount of attention to a particular attribute (i.e., selective attention) had a direct effect on the ratings of the perceived importance of the attribute.

Given that the increased accessibility of an attribute is expected to increase the attention directed toward the attribute, the perceived importance of this attribute may also increase when its accessibility is increased.

**Amount of Information and Motivation and Opportunity as Moderators of The Accessibility Effects**

Accessibility alone, however, does not guarantee influence. As selective attention is hypothesized as the mechanism that might account for the accessibility effect on brand choice, any factor that reduces the likelihood of selective processing is expected to attenuate, or eliminate, the influence of attribute accessibility on brand choice. The level of motivation and opportunity at the time of choice is one such factor. When the consumer has sufficiently high motivation and opportunity when making the choice, he/she engages in an effortful, exhaustive examination of the available information (Fazio and Towles-Schwen 1999). Thus, the brand choice is likely made in a highly deliberative fashion, so the consumer will not selectively focus on any subset of the available information, but will rely on a systematic analysis of all of the available information. Consequently, consumers with high motivation and opportunity are not likely to be affected by the immediate effect of the accessibility of a particular attribute, especially in a stimulus-based choice situation, in which all of the information is physically present for careful deliberation.

On the contrary, when the level of motivation and opportunity is low, the consumer engages in less cognitive elaboration of attribute information, and is more
likely to process the information in a heuristic (vs. systematic) manner (Petty and Cacioppo 1986; Chaiken 1980). As a consequence, the consumer’s choice may be largely a function of the immediate perceptions of the available information (Fazio and Towles-Schwen 1999). When the level of motivation and opportunity is low, consumer information processing is not likely to involve any deliberate reflection or reasoning, but instead, is more likely to be influenced by a spontaneous process, in which the consumer focuses initially on the activated, highly-accessible attribute. As a result, the effect of attribute accessibility on brand choice is expected to be greater when the level of motivation and opportunity is low when making the choice as the consumer with low motivation and opportunity is more likely to focus on the attribute that immediately draws his/her attention due to the high accessibility.

The level of motivation and opportunity by itself, however, may not be sufficient for the accessibility effect to occur. The amount of information to be processed may also determine whether the consumer will engage in the exhaustive or selective processing of the available information. Although the effect of the amount of information on the decision making is somewhat controversial (See, for example, Jacoby, Speller, and Kohn 1974; Russo 1974; Malhotra 1982; Keller and Staelin 1987), there is a general consensus that as the number of attributes increases, there is more selective processing of the attributes (Payne 1976; Lussier and Olshavsky 1979). When the amount of information to be processed is small, the attentional advantage of the primed attribute is expected to be minimal even for the uninvolved consumers. Only when the amount of information is large, the consumer, and the consumer with low motivation and opportunity in particular,
may cope with the cognitive demand of the large amount of information by selectively attending to the attribute which is highly accessible at the time of the brand choice.

In sum, it is expected that the effect of attribute accessibility on brand choice is expected to be maximal when: (1) the consumer lacks the motivation and opportunity to carefully scrutinize the available information, and (2) the consumer is faced with a large amount of information when making the brand choice.

**Summary of the Model**

In summary, according to the hypothesized model (See Figure 5), the heightened accessibility of an attribute increases the likelihood that this attribute is selectively attended to while the consumer is making the stimulus-based brand choice. The selective attention received by this attribute, in turn, is expected to increase its perceived importance, thereby exerting disproportionate influence on the brand choice. This process, however, is expected to be moderated by two important factors: (1) the amount of information given at the time of making the brand choice, and (2) the level of motivation and opportunity while the consumer is making the choice.

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Figure 5 about here

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**4.3 HYPOTHESES**

The conceptual model described above enables us to develop and test a number of interesting hypotheses. The model specifies that separate processes influence stimulus-
based brand choice depending on the level of motivation and opportunity. As 
aforementioned, when the consumer is under the condition of low motivation and 
opportunity, and is presented with a large amount of information, his/her choice is 
unlikely to involve a deliberate process whereby the consumer engages in an effortful 
analysis of all of the available information. Instead, her/his choice is likely to involve a 
spontaneous process, in which the consumer quickly focuses on the attribute that is 
highly accessible in memory. As the consumer lacks the motivation and opportunity to 
process the information presented, he/she is expected to make the brand choice based on 
the highly accessible attribute, rather than further processing other attribute information. 
Thus,

**H1: When the consumer is presented with a large amount of information, 
but lacks the motivation and opportunity, the highly accessible attribute will receive 
selective attention.**

Further, based on the evidence found in previous research (Gardner 1983; 
MacKenzie 1986), the selective attention directed toward the highly accessible attribute 
is expected to result in the increase in the perceived importance of that attribute. Thus, 
the highly accessible attribute is expected to be perceived as more important than a less 
accessible one under the conditions of high amount of information and low motivation 
and opportunity. Therefore,

**H2: When the consumer is presented with a large amount of information, 
but lacks the motivation and opportunity, an attribute will be perceived more 
important when it is highly accessible than when it is not highly accessible.**

As a consequence, the brand choice will be disproportionately influenced by the 
highly accessible attribute. Thus, it is hypothesized that:
H3A: When the consumer is presented with a large amount of information, but lacks the motivation and opportunity, his/her brand choice will be disproportionately based on the highly accessible attribute.

The above hypotheses regard the situation in which the consumer is presented with a large amount of information, but has limited motivation and opportunity to examine all of the available information when making the brand choice. But, if the consumer has ample motivation and opportunity when making the brand choice, he/she is expected to examine all of the available information provided regardless of the amount of information provided. Consequently, the effect of attribute accessibility on brand choice will be eliminated under this condition. Thus,

H3B: When the consumer has ample motivation and opportunity, attribute accessibility will not affect the brand choice regardless of the amount of information provided.

If, on the other hand, the consumer is provided with a small amount of information, he/she is expected to be able to examine all of the information regardless of the level of motivation and opportunity. Conceivably, a small amount of information can be processed with relative ease even when the consumer does not have sufficient motivation and opportunity to do so. In this situation, therefore, the role of selective attention will be negligible, and thus, the attribute accessibility is not expected to influence the brand choice. Therefore, it is hypothesized that:

H3C: When the consumer is provided with a small amount of information, attribute accessibility will not affect the brand choice regardless of the level of motivation and opportunity.
4.4 EXPERIMENT

An experiment was conducted to examine the above predictions. The essential purpose of the experiment was to investigate the effect of attribute accessibility on stimulus-based brand choice under differing levels of motivation and opportunity and the amount of information. The experiment comprised two sessions. In the first session, attribute accessibility was manipulated for an attribute which was established in a pretest to be unimportant in making the brand choice in a given product category. In the second session, subjects were presented with a stimulus-based choice which was designed to gauge the effect of the accessibility of this attribute on the brand choice. The amount of information presented and the level of motivation and opportunity were manipulated during the second session.

*Design.* The experimental design is a 2 (Accessibility of size: high vs. low) × 2 (Amount of Information: high vs. low) × 2 (Motivation/Opportunity: high vs. low) between-subject factorial design.

*Manipulations.*

Attribute Accessibility  Attribute accessibility was manipulated prior to the brand choice task. The manipulation involved increasing the accessibility of the unimportant attribute; i.e., the size of the VCR. This was achieved by having the subjects rephrase a series of nine statements which were ostensibly being considered to be used as advertising slogans. For the subjects in the ‘size nonprime’ condition, none of the statements concerned the size of the product (e.g., This antacid has low sodium level). For the subjects in the ‘size prime’ condition, four of the nine statements were related to the size of various products (e.g., This notebook computer fits on a small desk because it
is compact-sized). The size-related statements appeared on the second, fifth, seventh, and the ninth trials. In both conditions, none of the statements had to do with the VCR category (See Appendix 1 for the advertising statements used in the priming session).

Motivation and Opportunity. Employing procedures similar to those used by Sanbonmatsu and Fazio (1990), fear of invalidity and time pressure were used to manipulate motivation and opportunity. In the high motivation and opportunity condition, subjects were instructed to take as much time as needed to choose the VCR that they would purchase. In addition, they were told that their choice would be announced at the end of the experiment, and that they would later be asked to justify the reasons for their choice. In the low motivation and opportunity condition, subjects were simply told that they had only three seconds to make the brand choice.

Amount of Information. Amount of information was operationalized as the number of attributes per brand. In the high amount-of-information condition, the subjects were presented with information on eleven attributes, including size and warranty period. In the low amount-of-information condition, subjects were shown information for three attributes, again including size and warranty period. In both conditions, the two VCRs differed only with respect to the size (compact vs. medium) and the warranty period (12 vs. 16 months) while being equivalent with respect to all the other attributes (See Appendix 2 for the attribute information for the two VCRs shown to the subjects). The order of the presentation of the two brands and the two critical attributes was counterbalanced across the subjects.

Subjects. One hundred and sixty undergraduate business students from the University of Toronto participated in the experiment in exchange for course credit.
Stimuli. The stimuli were from two hypothetical brands of VCRs. The two VCRs varied with respect to two critical attributes—warranty period and size. Two pretests were used to identify these attributes. The purpose of the pretests was to identify an important attribute and an unimportant attribute for making a choice of VCR. In the first pretest, twenty-eight subjects were asked to list the attributes of a VCR that they: (i) liked, (ii) disliked, (iii) avoided, and (iv) sought out. Thirty three percent of these subjects listed warranty period as an attribute that meets at least two of these criteria. In contrast, no subject mentioned size of the VCR. These results indicate that, other things being equal, consumers are more likely to use the information on warranty period than on the size of the product as an input to making a VCR choice.

A separate group of sixteen subjects were then asked to rate the importance of various attributes of VCR, including size and warranty period. These subjects were given two sets of items. The first set consisted of a seven-point semantic differential scale asking how important they thought each attribute is important when purchasing a VCR (1: Not important at all, 7: Very important). The second set consisted of a seven-point Likert scale asking whether the subject would consider each attribute when purchasing a VCR (1: Strongly disagree, 7: Strongly agree). These two sets of questions attained a high level of reliability ($\alpha = 0.96$ and 0.93 for size and warranty period, respectively) and thus were averaged. The analyses of these scores revealed that size was rated significantly less important than warranty period for VCR purchase ($M = 4.7$ vs. $M = 6.1$, $t = 3.73$, $p < .01$).

Further, to determine the preferred level of each of the two attributes, the subjects were asked to indicate:
(i) whether they preferred a compact VCR or a larger VCR if two VCRs are equal in all other aspects, 
and (ii) whether they preferred a VCR with a longer warranty period or a shorter warranty period if two VCRs are equal in all other aspects.

All of the pretest subjects indicated that they preferred a VCR that is compact (vs. larger) and that has with longer warranty (vs. shorter warranty).

The stimulus information for the experiment was carefully constructed so that the choice that subjects made would indicate how the choice was made. Neither VCR was dominant on both size and warranty period; one brand of the VCR was favorable with respect to one of the two critical attributes but was unfavorable with respect to the other attribute. That is, the VCR described as compact had a shorter period of warranty than the one described as larger, and vice versa. Other things being equal, the subject would have chosen the compact VCR (despite its less favorable warranty period), if s/he relied on the attribute of size in making the VCR choice. Similarly, the subject would have chosen the VCR with the longer warranty (despite its less favorable size) if s/he relied on the attribute of warranty period.

Procedure. The subjects participated in groups of two to four individuals, and were randomly assigned to one of the 8 cells. Subjects were told that they would be asked to participate in two unrelated studies. The two sessions had separate cover stories which were designed to conceal the relationship between the two studies.

The manipulation of the attribute accessibility occurred during the first session, while the manipulations of 'motivation and opportunity' and 'amount of information' occurred during the second session.
The 'first' session was presented to the subjects as an advertising copy test. The subjects were told that the researchers were interested in seeking direct input from University students to create advertising copy for several products. Specifically, they were told that they would be presented with nine advertising statements that are dry, uninteresting, and at times, difficult to understand. Their task was to rephrase each statement so that it is more creative, interesting, and easy to understand. Each advertising statement was shown by an overhead projector onto the screen for sixty seconds. For the attribute accessibility manipulation, either four of the nine statements concerned the size of products or none of them did.

Upon completion of the first study, the subjects were provided with a booklet for the brand choice task. The booklet consisted of a cover page with instructions and the various dependent measures. On the first page of the booklet was the instruction for the task. The subjects were told that a major electronics company is seeking the opinions of University students about VCRs in order to develop new products. Also on the first page was the instruction that they would be shown a slide containing the information about two brands of VCRs, and that their task would be to indicate their choice. Half the subjects received the instruction for the high motivation and opportunity condition, while the other half received the instruction for the low motivation and opportunity condition. As aforementioned, fear of invalidity and time pressure were used to manipulate motivation and opportunity.

**Dependent Measures.** Upon completion of reading the instructions, the subjects were told to turn to the second page of the booklet, which contained the scale to be used for indicating their brand choice. When the subjects were ready, the experimenter showed
the slide that contained the information on the two VCRs. The information remained on the screen either for three seconds (low motivation and opportunity condition) or for an unlimited duration (high motivation and opportunity condition). Half the subjects in each of the motivation and opportunity conditions were shown a slide that contained information on eleven attributes (high amount of information condition) while the other half were shown a slide that contained information on three attributes (low amount of information condition).

Based on the information shown, the subjects indicated their VCR choice on the measure that appeared on the second page. The measure contained six responses consisting of ‘Definitely’, ‘Most likely’, and ‘Probably’ Choose VCR A or VCR B.

Upon completion of the choice task, the subjects were told to turn to the next page, on which the subjects were asked to write down the reasons for their choice of the particular brand. On the following page was a blank table. The subjects were asked to complete the table based on what they could recall about the two brands of VCRs. Specifically, they were told to reconstruct the slide shown during the choice task by listing the attributes that had been shown, and also the attribute values of each of the VCRs on these attributes.

Following the recall measures, the subjects rated the importance of various attributes of a VCR, including the size and the warranty. The importance measure consisted of two sets of items. The first set consisted of a seven-point semantic differential scale asking whether each attribute is important when purchasing a VCR (1: Not important at all, 7: Very important; See, Keller & McGill 1994, for a similar measure). The second set comprised a seven-point Likert scale asking whether the
subject would consider each attribute when purchasing a VCR (1: Strongly disagree, 7: Strongly agree). The coefficient $\alpha$ for these two scales on the attributes size and warranty were 0.88 and 0.89, respectively, indicating acceptable levels of reliability. Thus, the average of these two scales was used as a measure of attribute importance.

Following these questions, there was a question asking whether the subject would 'prefer a smaller or a larger VCR if the two VCRs are equivalent on everything except the size'. Finally, subjects were probed for suspicion about the experiments, debriefed, and then dismissed.

4.5 RESULTS

The subjects' responses to the demand characteristics question asked at the end of the experiment indicated that the attempt at concealing the relationship between the priming task and subsequent brand choice task was successful. Only one subject indicated a potential awareness of this relationship. Further, analysis of the responses from another subject indicated that this subject reported that he chose the target brand because of its lower price when, in fact, the prices were equal for the two brands. The data from these two subjects were excluded from statistical analyses.

Attribute Accessibility and Selective Attention

To examine the effect of attribute accessibility on selective attention, subjects' recall measures for the primed (i.e., size) and the unprimed (i.e., warranty) attributes were analyzed. Since the amount of attention directed at a stimulus is directly related to recall of that stimulus, recall has been frequently used as an indicator of the amount of
attention directed at specific features of the stimuli (e.g., Gardner 1983; Ratneshwar, Mick, and Reitinger 1990; Taylor and Fiske 1978).

As the purpose of the experiment was to examine whether selectively attended attributes are used in making brand choice, the responses were coded as accurate recall only when the subject accurately recalled the attribute values for both brands.

Specifically, for each of the two critical attributes (size and warranty), the recall score was coded 1 when the subject recalled the attribute and also accurately identified the values associated with the two VCRs on the attribute. If the attribute was not recalled, or if the attribute values were not correctly identified for either of the two VCRs, the score was coded 0.

It was predicted by H1 that when presented with a large amount of information, subjects with low motivation and opportunity would selectively attend to the highly accessible attribute. To test this prediction, logistic regressions were performed on the recall scores for size and for warranty as the dependent variables, with the attribute accessibility, the level of motivation and opportunity, and the amount of information as independent variables. Table 2 presents the proportion of subjects who correctly recalled the size and the warranty period of the two VCRs as a function of these three independent variables.

Table 2 about here.
To test H1, partial interaction analyses were performed on the recall scores of size and warranty period for the subjects in the high amount-of-information condition, using a logistic regression analysis. This analysis on the recall of size indicates a significant main effect of attribute accessibility and level of motivation and opportunity (Wald $\chi^2_{df=1} = 3.77$, $p < .05$, and Wald $\chi^2_{df=1} = 12.00$, $p < .01$, respectively). These main effects were qualified by a marginally significant two-way interaction (Wald $\chi^2_{df=1} = 3.22$, $p < .07$). This marginally significant interaction is due to a greater proportion of subjects recalling size under low motivation and opportunity when the accessibility of size is high than when it is low (68% vs 35%, $p < .05$). When the level of motivation and opportunity is high, attribute accessibility did not affect the recall for size (90% vs. 89%, $p > .10$).

The analysis on the recall scores of warranty period reveals a significant main effect of attribute accessibility and level of motivation and opportunity (Wald $\chi^2_{df=1} = 4.08$, $p < .05$, and Wald $\chi^2_{df=1} = 13.85$, $p < .01$, respectively). The interaction between these two factors approached statistical significance (Wald $\chi^2_{df=1} = 3.22$, $p < .07$). Under low motivation and opportunity, subjects recall warranty period better when the accessibility of size was low than when it was high (60% vs. 32%, $p < .05$). In contrast, the recall for warranty period is not affected by the accessibility of size when the subjects are in the high motivation and opportunity condition (89% vs. 85%, $p > .10$).

The logistic regression procedures were repeated for the low amount-of-information condition, where it was found that none of the main or interaction effects were significant. Thus, when the subjects were given a small amount of information, neither the attribute accessibility nor the level of motivation and opportunity affected the recall of the target attributes.
Taken together, these results provide support for H1. Subjects focused on the highly accessible attribute (i.e., size) when they were faced with a large amount of information but had low motivation and opportunity when making a choice. Under the same conditions, the recall of warranty suffered when the accessibility of the 'competing' attribute, size, was high. Thus, it appears that when a large amount of information is competing for attention, subjects with low motivation and opportunity quickly focus on the highly accessible attribute while ignoring other, potentially important information.

**Attribute Accessibility and the Perceived Attribute Importance**

The second hypothesis (H2) concerned the effect of attribute accessibility on perceived attribute importance. Table 3A presents the mean importance rating for size by amount of information, motivation and opportunity, and attribute accessibility, while Table 3B presents the corresponding mean importance ratings for warranty. Confirming the pretest results, the warranty period was rated more important ($M = 6.11$) than the size ($M = 4.93$), $t = 8.92$, $p < .01$. A three-way ANOVA on the importance ratings for the two attributes revealed no significant main effects or interactions for either experimental factor. For completeness, separate ANOVA's on the importance rating for the two attributes were performed for high- and low amount-of-information groups. Neither the main effects, nor the interaction of attribute accessibility and the level of motivation and opportunity were significant ($p > .10$).

In order to test H2, planned comparisons were performed for the two attributes in the high amount of information and low motivation and opportunity conditions. These comparisons revealed that the rated importance of size did not significantly increase
when this attribute was made highly accessible (mean=5.55 and 4.95 for 'size primed' and 'size nonprimed', respectively; F_{1,150}=1.88, p=.17). Similarly, the corresponding comparison for the rated importance of warranty period did not yield any significant difference (mean=6.19 and 6.40 for 'size primed' and 'size nonprimed', respectively; F=.466, p=.50). Thus, H2 was not supported.

Table 3 about here.

Brand Choice

As a consequence of counterbalancing, VCR A was the compact VCR with shorter warranty for half the subjects, while for the other half VCR B was the compact VCR with shorter warranty. In the analysis that follows, the responses are coded so that the VCR A always represents the compact VCR with a shorter warranty and VCR B the larger VCR with a longer warranty. The choices were coded by a scale ranging from −3 (Definitely choose VCR A) to +3 (Definitely choose VCR B) (cf., Sanbonmatsu and Fazio 1990).

The mean VCR choice as a function of amount of information, level of motivation and opportunity, and priming status are presented in Table 4. A 2 (attribute accessibility) × 2 (motivation & opportunity) × 2 (amount of information) between-subjects ANOVA was performed on the subjects' VCR choice.

Table 4 about Here
To investigate whether the results correspond to the predictions made in H3A through H3C, separate ANOVA's were conducted for each of the two levels of amount-of-information groups. As predicted by these hypotheses, the analysis reveals a significant interaction between attribute accessibility and amount of information only in the high amount-of-information condition, F(1,150) = 3.90, p < .05. Consistent with H3A, when the subjects are provided with high amount of information and are under low motivation and opportunity condition, those who are primed with size are more likely to choose the compact VCR compared to those who are not primed with size (M = -.47 vs. M = .90), F(1,150) = 5.07, p < .03.

In contrast, no reliable main effects or interactions emerged in the low amount-of-information condition or in the high motivation-and-opportunity condition. Specifically, under the low amount-of-information condition, the VCR choice was not affected by attribute accessibility regardless of the level of motivation and opportunity F(1,150) < 1, p > .10. But, as indicated in Table 4, there was a directional effect of attribute accessibility on VCR choice under low motivation and opportunity conditions (i.e., M=0.45 vs. M=1.05). However, this difference did not reach statistical significance (F(1,150) = 1.36, p = .25). Similarly, when the subjects were under high motivation and opportunity, attribute accessibility had no influence on the VCR choice regardless of the amount of information F(1,150) < 1, p > .10. Thus, Hypotheses H3B and H3C were supported.

To summarize, the accessibility of the attribute size had an influence on the VCR choice when the subjects were provided with a large amount of information, but lacked
the motivation and opportunity when making the choice. In all other conditions (i.e., low amount of information, or high motivation and opportunity), the accessibility of the attribute size had no effect on the VCR choice.

4.6 DISCUSSION AND CONCLUSION

The results presented here show that an attribute made highly accessible through priming may influence the brand choice despite its low perceived importance. Given a large amount of information, the subjects tended to focus on a highly accessible, though unimportant, attribute (i.e., size) in making the brand choice when they lacked sufficient motivation and opportunity to engage in an effortful processing of the information; however, when they had sufficient motivation and opportunity, they were able to overcome the immediate influence of the attribute accessibility, and make the brand choice based on the more important attribute (i.e., warranty period).

These results are most likely explained by the selective attention directed toward the highly accessible attribute. The attribute recall data indicate that the subjects selectively attended to the highly accessible attribute while ignoring the less accessible, but potentially more important attribute. However, no evidence of selective attention was observed in any other condition; that is, when the amount of information was low, or when the level of motivation and opportunity was high, the subjects appeared to have attended to both the highly accessible and the less accessible attributes.

Notably, the ratings of the perceived attribute importance were not affected by the accessibility of the attribute ‘size’. Thus, it appears that the effect of attribute
accessibility on brand choice resulted from the manner in which subjects processed the information, not from the shifts in the perceived importance of the attribute.

Taken together, these findings indicate that while an attribute perceived to be important is likely to be used as input for making brand choices in many situations (i.e., low amount of information or high motivation and opportunity), it may exert little influence on brand choice in situations where the consumer is unlikely to engage in a deliberative processing, and there is a large amount of available information. In these latter situations, an unimportant, but highly accessible, attribute may receive the selective attention of the consumer, and thus, may guide the brand choice at the expense of a more important but less accessible attribute.

The results reported in this study are consistent with research in both consumer behavior and social cognition, which has long recognized the role of selectivity in consumer perception (Kardes 1994; Lynch and Srull 1982; Roskos-Ewoldsen & Fazio 1992; Sanbonmatsu and Fazio 1991). Given the large amount of information that must be processed by individuals during any given day, consumers routinely select some subset of the externally available information. As shown in the present study, the tendency toward selective, rather than exhaustive, attention is more likely when the consumer lacks the motivation and opportunity to process the product information in a deliberative manner.

The present study also extends our understanding of the stimulus-based brand choice by identifying situations in which an attribute perceived to be unimportant might be used as an input to the brand choice. Research in consumer behavior has generally suggested that selective attention is likely to be directed toward the most important
attributes, while the 'trivial' ones are ignored (e.g., Lynch & Srull 1982; Alba, Hutchinson and Lynch 1991). Consequently, the consumer would be most likely to choose the brand which is superior on the most important attributes. The study reported here, however, suggests that, in situations wherein the consumer faces a large amount of information and has a low level of motivation and opportunity, the perceived importance of the attribute may not predict which brand is chosen in the stimulus-based brand choice context. Rather, in these situations, the accessibility of the attribute plays a larger role in predicting the consumer's brand choice than the perceived importance of the attribute.

The effect of accessibility has been well documented in memory-based judgment and choice (e.g. Alba, Hutchinson, and Lynch 1991; Herr, Kardes, and Kim 1991; Kardes 1994). The results of this study extend the prior research on accessibility by showing that the effects of accessibility are not limited to memory-based choices. Stimulus-based choices are also influenced by accessibility; apparently, the stimulus-based choice is the result of the interplay among what is available in the stimulus environment, what is accessible in memory, and the circumstances in which the choice is made.

Importantly, the findings of the study suggest that the accessibility of the attribute can compensate for its low importance in terms of its likelihood of being used as an input for the brand choice under some conditions. While interesting, the finding of a null effect of attribute accessibility on attribute importance is somewhat surprising in light of the prior research (MacKenzie 1986). MacKenzie (1986) found that the amount of attention directed at an attribute had a positive effect on the perceived importance of that attribute. This disparity in the results may stem from a critical difference in the methodology. In
MacKenzie's study the amount of attention was directly manipulated using advertisements, which overtly emphasized the importance of the critical attribute for the target product category. Further, the subjects were directly instructed to think about the critical attribute. In contrast, the experimental manipulation employed in the current study involved contextual priming, which is subtler than that used in MacKenzie in two important respects; first, the attribute was primed outside the context of the target product category. The product categories used to prime the attribute 'size' were unrelated with the target product category (i.e., VCR); second, the amount of attention was not directly manipulated in the present study. Thus, the experiment did not entail any explicit instruction to attend to, or think about, any particular attribute while making the VCR choice.

Another explanation for the differences in the results may be found in the actual duration of the attention given to the target attribute. In MacKenzie's study (Experiment 1), the increase in the attribute importance was observed when the duration of attention was increased from 60 seconds to 105 seconds, suggesting that the shift in attribute importance requires considerable amount of time. In the study reported here, however, none of the subjects spent an extensive amount of time attending to the primed attribute. In the low motivation and opportunity condition, the subjects were allowed 3 seconds to look at the given information, only part of which was presumably devoted to processing the attribute size. Even the subjects in the high motivation and opportunity conditions rarely spent over 60 seconds scrutinizing the information, despite the fact that they were given unlimited time for making the choice.
Still another possibility may be that, in the current study, there was a considerable delay between the exposure to the stimulus information and the importance-rating task, whereas in MacKenzie study, the attribute importance was measured immediately after the subjects were exposed to the experimental stimuli. The subjects in the current study may have 'cooled down', and overcome the immediate influence of attribute accessibility by the time they were asked to rate the importance of the attributes. MacKenzie also acknowledges that the introduction of an interval between exposure to the information and measurement of importance might alter the effect of attention on the importance rating. While plausible, the explanations advanced above remain largely conjectural, and need to be examined in future research.
CHAPTER FIVE

Conclusion

This dissertation investigates how the memory for various aspects of brand information may influence subsequent brand choices that are made in different contexts. Specifically, the effect of perceptual and conceptual fluency for brand names, attitude accessibility, and attribute accessibility in brand choices were examined. Further, it was shown that the relative influences of these factors differed depending on the level of motivation and opportunity at brand choice. This dissertation also demonstrates that memory factors which influence memory-based choice also influence stimulus-based choice. In the sections to follow, the key findings of the dissertation are summarized, followed by the discussion of the limitations and avenues for future research.

The first study of this dissertation found that perceptual fluency for the brand name exerts a strong influence on constrained choice under low motivation and opportunity conditions. That is, when the choice involves selecting a brand among a set of visually available brand names, it appears that the consumers rely on perceptual features of the alternatives and choose the brand that 'pops out', or that seems 'perceptually fluent' if they are not highly motivated, or do not have the adequate opportunity to expend much cognitive effort. Given that the constrained choice involves a visual presentation of the brand names, it was also found that the earlier exposure to the brand must also be visual, as opposed to auditory, in order for these effects to occur, however, whether the initial processing of the brand name was conceptual or perceptual had no effect.
In contrast, fluency for the brand names was shown to exert no influence on constrained choices that were made under high motivation and opportunity condition. When the consumer is highly motivated and has ample opportunity to deliberate on the alternatives in order to make a choice, the brand choice is likely to be influenced by the attitudes, accessibility of the attitudes, and attribute information about brands.

In the second study, both perceptual fluency and attitude accessibility were shown to influence constrained choice under low motivation and opportunity conditions and that these effects are independent. Under high motivation and opportunity conditions, only attitude accessibility had an effect on constrained choice. Perceptual fluency did not influence constrained choice under these conditions, replicating the findings of the first study. In addition, under high motivation and opportunity conditions, the accessibility of the attitudes, rather than the attitudes themselves, may influence the brand choice. While the subjects under high motivation and opportunity condition did tend to choose the best brand (66%) when the attitude toward the second best brand was not highly accessible, nearly 60% of the subjects chose the second best brand at the expense of the best brand when the accessibility of the former brand was highly accessible.

Not only do these results conform to the findings of the previous research regarding the role of attitudes and attitude accessibility (e.g., Berger and Mitchell 1989; Fazio, Powell, and Williams 1989), but they also extend those findings by showing that they occur under both high and low motivation and opportunity conditions. This study also suggests that the attitudes themselves might play little role in guiding brand choice when the consumer is under low motivation and opportunity conditions. Only when the consumer is under high motivation and opportunity condition, do the attitudes influence
the brand choice, however, even when the level of motivation and opportunity is high, the influence of the accessibility of the attitudes may outweigh the influence of the attitudes themselves.

The third study of the dissertation demonstrates that memory factors such as accessibility, which have a strong effect on memory-based choice, also influence stimulu-based choices under some conditions. The effects of accessibility have been well-documented in the literature with respect to memory-based choice (Lynch and Srull 1982; Kardes 1994) and mixed choice (Biehal and Chakravarti 1986; Biehal and Chakravarti 1989; Dick, Chakravarti, and Biehal 1990), which involve the retrieval from memory of some or all of the attribute information. The results of the third study indicated that the accessibility of the attribute in memory may also affect stimulus-based choice. That is, even when all of the attribute information is physically present the accessibility of the attribute may exert a strong influence on the brand choice when the consumer is (1) faced with a large amount of information and (2) is under low motivation and opportunity. More importantly, under this condition, the consumer is likely to base brand choice on an unimportant attribute at the expense of an attribute that is potentially more important for making the particular choice. The attribute recall data suggest that these results are best explained by selective attention. That is, consumers, when faced with a large amount of information but lacks the motivation and opportunity, are likely to selectively attend to the highly accessible, but potentially unimportant, attribute. Consequently, this attribute weighs heavily when the choice is made while a potentially more important, but less accessible attribute is ignored.
The results of the three studies in the dissertation clearly indicate that both theorists and marketers would benefit from explicitly considering the role of motivation and opportunity the consumer has when making brand choices. The core findings of the dissertation suggest that when consumers do not spend much time and are not highly motivated to expend cognitive effort, any factor that influences the immediate perception of the alternative brands is likely to increase the choice based on features that may be unrepresentative of product quality rather than based on effortful search for attribute information in memory or in the environment. Clearly, many consumer choices are made with little motivation and opportunity. In particular, for most consumer packaged goods, choice under low motivation and opportunity may be the rule rather than the exception (See Dickson and Sawyer 1990). The results of the dissertation suggest that marketers of these goods may benefit the most by: using simple advertisements which emphasize the brand name (study 1), increasing not only the attitudes but also the accessibility of these attitudes (study 2), and focusing on a single, potentially unimportant, attribute on which the brand has a competitive advantage (study 3).

The results of the current dissertation should be interpreted in light of several limitations which should be dealt with in future research. First, the results regarding attribute importance must be viewed with caution. In order to measure attribute importance, past research in marketing has typically employed a variety of measures including the direct subjective rating of the importance of the attributes (e.g., MacKenzie 1986; Keller and McGill 1994), importance measures derived from conjoint weights (Greene 1984), and measures based on constant sum rating of various attributes (e.g., MacKenzie 1986). Two measures were used in the current dissertation; namely, free
elicitation of important attributes and direct subjective ratings. These two measures showed some disparities; that is, while the importance of the attribute size was lower than warranty period in both measures, the perceived importance of both attributes appeared to be substantially higher when measured with direct rating than what the results of free elicitation task would have suggested. Future research may extend the results of the current dissertation by utilizing alternative measures of attribute importance and explicitly investigating whether the current pattern of results are observed with other measures of attribute importance.

Second, while the results of the dissertation clearly demonstrate that the consumer may focus on an unimportant attribute and readily ignore an important one, the importance of the two attributes used in the study should be viewed in relative terms. Future research should examine this issue by using attributes that vary more extremely with respect to their rated importance. For instance, one may examine whether the consumer under low motivation and opportunity condition may choose a television set on the basis of an unimportant attribute and ignore an essential attribute such as picture quality. The results of the study in the current dissertation suggest that any highly accessible attribute is capable of receiving selective attention of the consumer, and hence, is likely to weigh more heavily in brand choice than any other, potentially important attribute under some conditions. The results of studies employing several attributes that vary with respect to the extremity of importances would not only extend the generalizability of the study reported in the current dissertation, but also provide further evidence that that selective attention is indeed the mechanism by which the brand choices are made in low motivation and opportunity situations.
Third, the results showed that consumers under low motivation and opportunity condition may ignore the superior brand in favour of the brand that is good enough when the perceptual fluency for the latter brand name was high. It would be fruitful for future research to examine the effect of heightened attitude accessibility and perceptual fluency for the brand toward which the consumer has negative attitudes. Based on the results of the dissertation which suggest that the consumer under low motivation and opportunity may simply choose the brand that 'pops out' among the alternative brands, one may speculate that the increased perceptual fluency for the brand name may increase the likelihood that the brand is subsequently chosen even when the consumer holds negative attitude toward the brand. Predicting the effect of the accessibility of negative attitudes under low motivation and opportunity is less clear. One may conjecture that very few consumers under both high and low motivation and opportunity conditions would select the brand toward which they hold negative attitude if this attitude is highly accessible. One may further expect, then, that consumers under high motivation and opportunity would select the brand toward which they hold the most positive attitudes while those under low motivation and opportunity would randomly select one of the brands toward which they do not hold highly accessible attitudes. These hypotheses, however, remain conjectural and have to be tested in further research.

Finally, a word of caution regarding the generalizability of these results to actual shopping behavior is needed. The objective of this dissertation was to examine the differential effects of various factors on brand choices that are made under differing levels of motivation and opportunity. Consequently, the studies employed hypothetical brand choices and systematically varied the level of motivation and opportunity by
manipulating the evaluation apprehension and the time pressure. Clearly, the magnitude of the influences of perceptual fluency, attitude accessibility, and attribute accessibility on actual brand choices needs to be investigated.

SUMMARY

This dissertation examined the influences of fluency for brand names, attitude accessibility, and attitude accessibility on two types of brand choices; choices made in the physical presence of only the brand names (i.e., constrained choice), and those made in the physical presence of the brand names and the associated attribute information (i.e., stimulus-based choice). Further, the moderating roles of the level of motivation and opportunity during choice were also investigated. The results of the three studies point to the need for explicitly considering the level of motivation and opportunity as the relative influences of the above mentioned factors appear to depend critically on the amount of cognitive effort expended by the consumer during brand choice. In particular, when the consumer has little motivation and opportunity to make the brand choice, the choice was shown to be influenced by not only the attitude accessibility (study 2), but also by potentially unrepresentative features of the alternatives such as the perceptual fluency for the brand names (study 1) and the unimportant attribute (study 3).
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FIGURE 1
EXPERIMENTAL PROCEDURE (STUDY 1)

EXPOSURE

5-Min Filler Task

Brand Choice

Questions for Demand Characteristics

Debriefing

5 Filler Brands

15 Target Brands
  • Order Randomized

10 Filler Brands

5 Filler Product Categories

15 Target Product Categories
  • Order Randomized

10 Filler Product Categories
FIGURE 2

PERCENTAGES OF SUBJECTS WHO CHOSE EACH BRAND AS A FUNCTION OF PERCEPTUAL FLUENCY AND ATTITUDE ACCESSIBILITY OF THE SECOND BEST BRAND, LOW MOTIVATION AND OPPORTUNITY CONDITIONS (STUDY 2)

2A. Low Perceptual Fluency/
Low attitude Accessibility

2B. High Perceptual Fluency/
Low attitude Accessibility

2C. Low Perceptual Fluency/
High attitude Accessibility

2D. High Perceptual Fluency/
High attitude Accessibility
FIGURE 3

PERCENTAGES OF SUBJECTS WHO CHOSE EACH BRAND AS A FUNCTION OF PERCEPTUAL FLUENCY AND ATTITUDE ACCESSIBILITY OF THE SECOND BEST BRAND, HIGH MOTIVATION AND OPPORTUNITY CONDITIONS (STUDY 2)

3A. Low Perceptual Fluency/
Low attitude Accessibility

3B. High Perceptual Fluency/
Low attitude Accessibility

3C. Low Perceptual Fluency/
High attitude Accessibility

3D. High Perceptual Fluency/
High attitude Accessibility
FIGURE 4

EFFECTS OF PERCEPTUAL FLUENCY AND ATTITUDE ACCESSIBILITY ON BRAND CHOICE (STUDY 2)

4A. Low Motivation and Opportunity Condition

4B. High Motivation and Opportunity Condition
FIGURE 5

HYPOTHEZIZED MODEL (STUDY 3)

Attribute Accessibility

Amount of Information

Focus of Attention

Change in Attribute Importance

Level of Motivation & Opportunity

Stimulus-based Brand Choice
### TABLE 1

MEAN NUMBER OF MATCHES BETWEEN THE PRIMED AND CHOSEN BRANDS (STUDY 1)

<table>
<thead>
<tr>
<th></th>
<th>Visual Perceptual processing</th>
<th>Visual Conceptual processing</th>
<th>Auditory Perceptual processing</th>
<th>Auditory Conceptual processing</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low motivation &amp; opportunity</td>
<td>4.13 (n=16)</td>
<td>4.31 (n=16)</td>
<td>3.00 (n=16)</td>
<td>2.63 (n=16)</td>
<td>3.52 (n=64)</td>
</tr>
<tr>
<td>High motivation &amp; opportunity</td>
<td>3.31 (n=16)</td>
<td>3.56 (n=16)</td>
<td>2.87 (n=15)</td>
<td>2.81 (n=16)</td>
<td>3.14 (n=63)</td>
</tr>
<tr>
<td>Aggregate</td>
<td>3.72</td>
<td>3.94</td>
<td>2.94</td>
<td>2.72</td>
<td>3.33 (n=127)</td>
</tr>
</tbody>
</table>

*; above chance level (p < 0.05).
TABLE 2A

MEAN RECALL SCORES FOR SIZE BY CONDITION (STUDY 3) \(^a\)

<table>
<thead>
<tr>
<th></th>
<th>High Amount of Information</th>
<th>Low Amount of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size Primed</td>
<td>Size Not Primed</td>
</tr>
<tr>
<td>Low M &amp; O</td>
<td>0.68 (n = 19)</td>
<td>0.35 (n = 20)</td>
</tr>
<tr>
<td>High M &amp; O</td>
<td>0.90 (n = 20)</td>
<td>0.89 (n = 19)</td>
</tr>
</tbody>
</table>

\(^a\): The entries represent the proportion of the subjects who recalled.
TABLE 2B

MEAN RECALL SCORES FOR WARRANTY BY CONDITION (STUDY 3)\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>High Amount of Information</th>
<th>Low Amount of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size Primed</td>
<td>Size Not Primed</td>
</tr>
<tr>
<td>Low M &amp; O</td>
<td>0.32 (n = 19)</td>
<td>0.60 (n = 20)</td>
</tr>
<tr>
<td>High M &amp; O</td>
<td>0.85 (n = 20)</td>
<td>0.89 (n = 19)</td>
</tr>
</tbody>
</table>

\(^a\) The entries represent the proportion of the subjects who recalled.
<table>
<thead>
<tr>
<th></th>
<th>High Amount of Information</th>
<th>Low Amount of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size Primed</td>
<td>Size Not Primed</td>
</tr>
<tr>
<td>Low M &amp; O 5.55 (n = 19)</td>
<td>4.95 (n = 20)</td>
<td>4.78 (n = 20)</td>
</tr>
<tr>
<td>High M &amp; O 5.03 (n = 20)</td>
<td>4.90 (n = 19)</td>
<td>4.95 (n = 20)</td>
</tr>
</tbody>
</table>

NOTE. --- 1; unimportant 7; important
### TABLE 3B

**MEAN IMPORTANCE RATING FOR WARRANTY BY CONDITION (STUDY 3)**

<table>
<thead>
<tr>
<th></th>
<th>High Amount of Information</th>
<th>Low Amount of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size Primed</td>
<td>Size Not Primed</td>
</tr>
<tr>
<td>Low M &amp; O</td>
<td>6.19 (n = 19)</td>
<td>6.40 (n = 20)</td>
</tr>
<tr>
<td>High M &amp; O</td>
<td>6.33 (n = 20)</td>
<td>6.11 (n = 19)</td>
</tr>
</tbody>
</table>

**NOTE.** --- 1; unimportant 7; important
TABLE 4

MEAN VCR CHOICE BY CONDITION (STUDY 3)

<table>
<thead>
<tr>
<th></th>
<th>High Amount of Information</th>
<th>Low Amount of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size Primed</td>
<td>Size Not Primed</td>
</tr>
<tr>
<td>Low M &amp; O</td>
<td>-0.47 (n = 19)</td>
<td>0.90 (n = 20)</td>
</tr>
<tr>
<td>High M &amp; O</td>
<td>0.95 (n = 20)</td>
<td>0.89 (n = 19)</td>
</tr>
</tbody>
</table>

NOTE. --- Positive numbers indicate the choice of the larger VCR with longer warranty while negative numbers indicate the choice of the compact VCR with shorter warranty.
THE ADVERTISING STATEMENTS USED IN THE PRIMING SESSION (STUDY 3)

<table>
<thead>
<tr>
<th>SIZE NONPRIME CONDITION</th>
<th>SIZE PRIME CONDITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedan: Thanks to its enhanced sound insulation, the new XR-2 is quieter.</td>
<td>Sedan: Thanks to its enhanced sound insulation, the new XR-2 is quieter.</td>
</tr>
<tr>
<td>Cordless Phone: With the OOO cordless phone, you can store up to a hundred phone numbers for automatic dialling.</td>
<td>Camcorder: The size of the RS-A2 model is very compact.*</td>
</tr>
<tr>
<td>Chewing Gum: This gum is sugarless.</td>
<td>Chewing Gum: This gum is sugarless.</td>
</tr>
<tr>
<td>Shampoo: The new shampoo by YV has good fragrance.</td>
<td>Shampoo: The new shampoo by YV has good fragrance.</td>
</tr>
<tr>
<td>Antacid: The BRX antacid has low sodium level.</td>
<td>Notebook Computer: The BRX notebook computer fits on a small desk because it is compact-sized.*</td>
</tr>
<tr>
<td>Bank: The employees at the AAA Bank are very friendly.</td>
<td>Bank: The employees at the AAA Bank are very friendly.</td>
</tr>
<tr>
<td>Family Restaurant: The food at the ABC Restaurant is healthy.</td>
<td>Cellular Phone: The PF cellular phone is compact sized.*</td>
</tr>
<tr>
<td>Iced Tea: The AAA iced tea has natural taste.</td>
<td>Iced Tea: The AAA iced tea has natural taste.</td>
</tr>
<tr>
<td>Breakfast Cereal: The new cereal by CCC Company has low calories.</td>
<td>Camera: The new camera by RTX is compact and light.*</td>
</tr>
</tbody>
</table>

*; Size-related statements
APPENDIX 2

THE ATTRIBUTE INFORMATION SHOWN DURING THE BRAND CHOICE SESSION (STUDY 3)

2.1 Low amount of information

<table>
<thead>
<tr>
<th>Characteristics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICE</td>
<td>$225</td>
<td>$225</td>
</tr>
<tr>
<td>SIZE</td>
<td>Medium</td>
<td>Compact</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>16 months</td>
<td>12 months</td>
</tr>
</tbody>
</table>

2.2 High amount of information

<table>
<thead>
<tr>
<th>Characteristics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICE</td>
<td>$225</td>
<td>$225</td>
</tr>
<tr>
<td>PICTURE QUALITY</td>
<td>Very good</td>
<td>Very good</td>
</tr>
<tr>
<td>ON-SCREEN MENU</td>
<td>English/French/Spanish</td>
<td>English/French/Spanish</td>
</tr>
<tr>
<td>SIZE</td>
<td>Medium</td>
<td>Compact</td>
</tr>
<tr>
<td>POWER FAILURE BACKUP</td>
<td>2 hours</td>
<td>2 hours</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>16 months</td>
<td>12 months</td>
</tr>
<tr>
<td>SOUND QUALITY</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
<tr>
<td>HEADS</td>
<td>4 heads</td>
<td>4 heads</td>
</tr>
<tr>
<td>AUTOMATIC OFF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>REWINDING SPEED</td>
<td>181 sec</td>
<td>180 sec</td>
</tr>
<tr>
<td>AUTOMATIC CLOCK SET</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>