An Information Processing Perspective on Between-Brand Price Premiums: Antecedents and Consequences of Motivation

Carter A. Mandrik

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Edward F. Fern, Chair
Danny K. Axsom
David L. Brinberg
Eloise Coupey
Robert J. Harvey

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(ABSTRACT)

This dissertation examines between-brand price premiums from an information processing perspective. A literature review is conducted in which price premiums are shown to depend on consumer's ability, motivation and opportunity to process information relevant to making between-brand judgments of value. A conceptual model is developed that incorporates these three constraints on brand information processing, but focuses on the antecedents of the motivation construct. An experiment is conducted that tests the effects on information processing of four antecedents to motivation: involvement, brand evaluation motive, economic concern, and need for cognition. Results show that involvement interacts with motive in its effect on information processing amount, but not on processing style. Need for cognition is positively related to both amount and style of processing, but the economic concern results were mixed. Finally, implications of the results are discussed and future research directions suggested.

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CHAPTER I
INTRODUCTION

Research Problem

Observation of any supermarket will reveal ample situations where certain brands in a product class command higher prices but offer equivalent objective (as opposed to perceived) quality as competitors. Why do these brands command such price premiums? Two views have predominated in research that has sought to answer this question. Economic perspectives (e.g., Maynes 1979; Nelson 1970; Stigler 1961) state that these price premiums are caused by adverse information conditions--the "information asymmetry." Consumers are thought to be ignorant of the quality equivalence. In this view, price premiums (a.k.a., price dispersion) reflect market inefficiency and a concomitant loss to consumer welfare. Marketing perspectives (e.g., Aaker 1991; Keller 1993) claim that these price premiums are caused by favorable brand specific associations--"brand equity;" that is, consumers obtain some value incrementally above the objective quality for which they are willing to pay. In this view, price premiums (a.k.a., brand equity) are seen as evidence of successful marketing communications strategies. Is either view correct? Neither view alone seem to offer a complete account of the problem, nor addresses the issues that its counterpart points up as influencing price premiums. A consumer behavior perspective on price premiums would be valuable in its ability to incorporate extant research that relates individual-level constructs (e.g., those related to consumers' information processing) to the problem.

The goal of this dissertation is to explore the concept of price premiums from a consumer behavior perspective, taking into account the contributions provided by each of the two previously-discussed views. Specifically, the role of the information asymmetry as a causal factor underlying price premiums is explored from a consumer behavior perspective derived from dual-process information processing models. While the apparent paradox of the two predominant opposing views on price premiums has been noted in past research (Holbrook 1992), so far there have been no published efforts to integrate the findings of each area. But doing so would be advantageous for several reasons. First, this research may serve to qualify normative statements made by economics-based researchers who see price premiums as

originating solely from an information asymmetry. Typifying this perspective, for example, Stigler (1961, p. 214) argues, "Price dispersion is a manifestation--and, indeed, it is a measure--of ignorance in the market." However, does this blanket statement apply equally to all situations? Calls have been made to better understand the reasons that underlie price premiums because of the important implications for consumer welfare (e.g., Kamakura, Ratchford, and Agrawal 1988). Second, the proposed research may help brand managers make better decisions regarding pricing and promotion strategy. Currently, brand equity perspectives do not account for the role of factors relating to the information asymmetry in the price premiums garnered for a brand name, yet these factors may be important to understand. For example, does accurate product knowledge lead to better value in brand choices (cf. Bei and Heslin 1996; Maynes and Assum 1982) and hence, brand equity erosion? And for which types of product situations? Do consumers' predilections to maximize objective value (e.g., Zeithaml 1988; Lichentstein, Netemeyer, and Burton 1990) influence the price premiums garnered for a brand name? How? Finally, the proposed research may serve to better enable managers to make marketing decisions, for example, those regarding advertising and promotions.

Overview of the Literature on Price Premiums

Extant research on between-brand price premiums[1] has proceeded along two main lines, each one emphasizing the role of different factors. These two research streams are the economics of information (e.g., Maynes 1979; Nelson 1970; Stigler 1961) and brand equity (e.g., Aaker 1991; Keller 1993). Each one will be discussed in turn.

Economics of Information Research

Research in the economics of information tradition sees the information asymmetry and consumer ignorance of product quality as the cause of price premiums, or price dispersion. Kamakura, Ratchford, and Agrawal (1988, p.290) note that "there is a vast literature that explains inefficiency and price dispersion as an outcome of costly information." In this view, consumers

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[1] Henceforth the term "price premiums" will be used to refer to price premiums that exist between brands for the same level of objective quality. Research informed by the economics of information also examines price premiums (a.k.a., price dispersion) between stores in a chosen area (e.g., Maynes and Assum 1982), which are subject to similar influencing factors (e.g., information asymmetry, search costs).

are assumed to behave rationally with the accurate determination of product quality and objective value as their overriding concerns in brand choice. Various factors that relate to the quality of information, as whether or not product quality information is available to consumers, or whether or not consumers have the ability in terms of time or expertise, are proposed to influence price premiums. Besides these factors related to opportunity and ability to process product quality information, research in this tradition indicates that consumers must be motivated to devote effort to the task of determining the best value brand. Thus, external search and price/quality comparisons are undertaken subject to the level of motivation, which would be indicated by, for example, the costs and benefits associated with search. The more conditions are unfavorable to an accurate determination of product quality, the greater should be the amount of price dispersion in the market, indicating a loss to consumer welfare.

However, this research is limited by the assumption that brands are evaluated based solely on product quality and a rational attempt to maximize objective value in brand choice. Corollary to this assumption is that information on objective quality -- a lack of which is the overriding cause of price premiums -- is used by consumers in brand evaluations. Further, these theoretical frameworks do not incorporate individual-level constructs, such as those accounted for in psychological models of consumer information processing (Rao and Monroe 1996). These individual-level constructs may include prior knowledge structures related to quality, for example, covariation beliefs (Pechmann and Ratneshwar 1992) or heuristics (cf. Eagly and Chaiken 1993), as well as motivational constructs that may affect how consumers process brand information (e.g., "involvement" or "need for cognition," cf. Petty and Cacioppo 1986). Thus, while economics-based frameworks are able to predict the impact of market-level factors on price premiums, they are limited in their ability to make predictions regarding the implications for price premiums of how consumers individually process information. This research has not adequately accounted for the role of involvement and brand choice motives in price premiums, a gap in the literature that the present research intends to fill.

Brand Equity Research

In extant brand equity research, price premiums for one brand over another of equivalent objective quality are one defining aspect of the concept itself: price premiums reflect brand

equity (cf., the MSI definition in Baldinger 1990). Underlying price premiums, in this view, are "strong, favorable, and unique [brand specific] associations" -- i.e., beliefs (Keller 1993, p. 4). A fundamental role is accorded to the firm's marketing communications in forming these brand-specific beliefs, which reflect a consumer's positive evaluation above and beyond the objective or physical product. Thus, positive brand equity -- a price premium for a particular brand -- is evidence of successful brand management, particularly promotions. The conceptualization offers several contributions. First, it provides a needed focus on the individual consumer and individual-level constructs, like beliefs, attitudes, and behavioral intentions, as the basis for brand equity, or between-brand price premiums. Second, it provides a convenient framework for measuring the level of brand equity for a brand variant; this is often based on comparison to an objectively identical but otherwise unbranded competitor -- which may be hypothetical -- but often is a "no-name" brand or a private label (a.k.a., a store brand). Finally, it recognizes that the value added by the brand name to the consumer (the reason consumers are willing to pay more for a brand) may derive from associations unrelated to functional performance (e.g., a high status brand image).

However, this perspective is limited in that it is descriptive, but not predictive (Feldwick 1996). That is, it is useful for measuring a certain level of brand equity, but is not useful for making dynamic predictions regarding brand equity. It does not make predictions regarding, for example, the types of products, people, or situations for which there should be higher or lower brand equity, or for the possible factors that may influence an existing level of brand equity. One class of factors suggested by the economics of information and information processing models is those related to the use of information on the product's objective quality. Further, although brand equity measurement research relies heavily on a multi-attribute attitude model, it does not explicitly address the role of factors typically examined in models of consumer brand judgment formation, for example, the role of involvement. In many of these models, involvement is considered to be a critical factor in determining the level of processing and types of information used to form a brand attitude. Finally, current brand equity research has not explicitly considered the role of economic concern (i.e., importance of saving money) that the economics of information and many brand choice models consider important (e.g., Monroe, Dodds, and

Grewal 1991). Recent brand equity research has speculated on some of these issues, for example, Bello and Holbrook (1992) suggested that . Park and Srinivasan (1994) suggested that . However, no research has sought to test empirically these suggested relationships.

Consumer Information Processing Research

A vast amount of consumer research has been devoted to studying consumers' brand judgment formation in various contexts (e.g., at advertising exposure or at point of purchase). A cue utilization model introduced by Cox (1967) and elaborated by Olson and Jacoby (1973) achieved widespread use for studying consumers' judgments made at point of purchase using externally available information or, more precisely, in experimental situations that mimic this information context (e.g., Purwar 1982; Schellink 1983). An "accessibility/diagnosticity" model proposed by Feldman and Lynch (1988) has been used to explore the types of information used in judgment contexts that include not only externally available information, but information stored in memory (e.g., Lynch, Marmorstein, and Weigold 1988). Dual-process models have been used as frameworks to explicate the factors influential in brand evaluation in the context of message processing from advertising (e.g., Cacioppo and Petty's 1979 ELM; Chaiken's 1980 H-S). Additionally, these models have been used as frameworks for studying the information processing aspects of consumer behavior in other contexts, such as promotion signal use at the point of purchase (e.g., Inman, McAlister, and Hoyer 1990) and cue type used in brand evaluations (e.g., Mitra 1995).

Common to each of these judgment contexts and the frameworks applied in studying them is consideration, explicitly or implicitly, of consumers' ability, motivation, and opportunity to make judgments (e.g., brand evaluations) by a processing mode that leads to more valid judgments. This processing mode can be characterized as involving more cognitive effort and using information that is qualitatively "better" in making a brand-related judgment. That is, this information is relatively more valid, predictive, and diagnostic of the product in question but is inherently more difficult to use (e.g., requires more cognitive effort, expertise). Examples of this type of information include product-related arguments, intrinsic attributes, and *Consumer Reports* ratings. In order to use this type of information, consumers must have the necessary levels of variables related to ability and motivation. Brand choice depends in part on consumers'

perceptions of quality and value (Dodds, Monroe, and Grewal 1991), and the accuracy of these perceptions is influenced by the amount and type of information used (e.g., Hoch and Ha 1992). It thus seems plausible to integrate consumer information processing research around the concept of price premiums – or, from the opposite perspective, the objective value -- achieved in the consumers' brand choice. Generally speaking, lower levels of ability, opportunity, and motivation should lead consumers to use less qualitatively valid information and to make worse value choices (or, alternatively, they should pay higher price premiums). Therefore, studies that have explored specific variables that influence each of these general factors may be incorporated into a general framework. Among these studies, the effects of ability and opportunity factors have been generally well established. However, in terms of its antecedents and its consequences for price premiums, motivation to process brand information is less well understood, particularly as it concerns the involvement construct.

In much of the information processing research, involvement has been used to operationalize motivation to process information (Celsi and Olson 1988; Andrews 1988). However, this is a restricted view of the involvement construct. Consumer research has produced a variety of definitions and operationalizations of involvement, which makes it difficult to predict its role in price premiums. A general consensus has emerged that involvement is the "amount at stake" -- level of risk and importance associated with an issue or situation and as such, is a non-directional but energizing variable. Research on advertising's role in brand attitude formation and change has shown that involvement may interact with the motives, or information processing goals, that are aroused in a situation to produce qualitatively different information processing (Park and Young 1986; Shavitt, et al. 1994). However, in the brand evaluation context, the information processing implications of this interaction have yet to be examined. Furthermore, there has been only one (non-experimental) examination of the role of involvement in determining price premiums (Bei and Heslin 1996). This dissertation seeks to address these deficiencies by examining the interaction of involvement and motives in an experiment using a brand evaluation task, and testing the implications for information processing and for between-brand price premiums.

Summary. In summary, previous research on price premiums has been conducted from

primarily two perspectives, the economics of information and brand equity. Each emphasizes different constructs and draws normative conclusions for different constituencies. The economics of information perspective assigns a causal role to adverse information conditions to putative price premiums, and notes negative implications for consumer welfare. The brand equity perspective measures brand-specific associations that underlie price premiums, and focuses primarily on positive implications for the firm. Both views contribute to our understanding of price premiums and help to justify the importance of research that seeks to examine this issue; however, neither view alone offers an adequate account of the factors that may influence price premiums. Much research on consumers' use of information to make brand judgments can be related to price premiums using an information processing framework. Three primary factors, ability, motivation, and opportunity to systematically process brand quality information appear critical to making best value choices (where value is defined by intrinsic or objective quality attributes, cf. Zeithaml 1990). The motivation to process information is the least well-explicated factor. Specifically, the role of involvement remains unclear. A theoretical framework is needed to clarify the role of involvement in price premiums; this will be described next.

Overview of Conceptual Model

The proposed information processing model of consumer brand evaluation leading to price premiums is summarized below and depicted in Figure 1 (Appendix 1). The model is explained in detail in Chapter III.

The model is derived from the popular dual-process information processing models of attitude formation and change (a.k.a., persuasion) in social psychology, although it is extended to include economic concern and different motives for brand evaluation as antecedents to motivation (see Figure 1, Appendix 1). The model assumes that brand choice is the outcome of some level of brand evaluation, or processing of brand information, among several brands. Concomitant with brand choice is the paying of a price for a given level of objective quality. Theoretically, the objective value (ratio of objective quality to price) a consumer achieves in brand choice can be compared to some objective standard, for example, using *Consumer Reports* ratings. Vis a vis other brands in the choice set, this outcome measure tracks the efficiency of

consumer choice -- or from the opposite perspective, the price premium aspect of firm brand equity -- under various information processing conditions. That is, the price premium measure can be used to measure the efficiency of consumers' brand decisions and related to the information processing constraints identified in former research.

This price premium or, from the opposite perspective, the objective value the consumer attains in brand choice is proposed to be a function of the consumers' processing of product attribute information. As in dual-process models, this entails deep (e.g., central, systematic) processing of quality (attribute) information for considered brands, where higher levels of processing are assumed to yield more accurate choices (Chaiken 1980).[2] This attribute information may be acquired, depending on the brand evaluation context, from sources such as advertising, external search, or by consulting a more or less objective information source such as *Consumer Reports* publications. Thus, the attribute information used is analogous to the "valid arguments" of the ELM (cf. Petty and Cacioppo 1986; see also Inman, McAlister, and Hoyer 1990; Mitra 1995), a common perspective taken in persuasion-based advertising studies (see, e.g., Petty, Wegener, and Fabrigar 1997). This dissertation will test the assumption common to economic models and persuasion models that higher levels of information processing lead to more accurate judgmental outcomes--in this case, a "best value" brand choice.

Also as in the dual process models, three main factors, ability, opportunity, and motivation, are seen as necessary to facilitate product attribute information processing. Ability includes such factors as whether the consumer has the knowledge or the cognitive capacity to process the brand judgment systematically. Opportunity includes such factors as whether or not information on objective quality is available (e.g., the product is dominated by search or experience attributes, Nelson 1970) and the consumer has sufficient time to process the judgment. Motivation is a

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[2] Heuristic or peripheral processing in the persuasion models is assumed to yield judgments that, generally, may be less accurate than systematic or central route processing. This assumption is predicated on the possibility that heuristic or peripheral cues may be of questionable reliability. In the consumer context, extrinsic cues like price and brand name have been shown to be, in many cases, an unreliable predictor of quality (e.g., Richardson, Dick, and Jain 1994). Price is not perfectly correlated with quality in most consumer markets (cf. Kamakura, Ratchford, and Agrawal 1988). Studies have demonstrated that consumers sometimes choose poorer-quality products when they rely on the brand name as a choice tactic (Hoyer and Brown 1990).

more complex issue, and is determined primarily by the interaction of consumers' level of involvement with the specific motives underlying brand evaluation, as well as economic concern (i.e., utility for monetary savings). Involvement level is a function of perceived personal relevance or "importance" of the brand decision, in line with the "amount at stake" conceptualization (Howard 1974; Bloch and Richins 1983). Evaluation motives (utilitarian, expressive) are determined by product, situation, and individual factors (MacInnis and Jaworski 1989). This dissertation will test the proposition that the motivation to process brand judgments is affected by the interaction of brand evaluation motives and involvement, as well as economic concerns. As mentioned, the economics literature indicates that price premiums are a function of factors related to the information asymmetry. This dissertation will test the proposition that greater processing of brand attribute information leads to reduced between-brand price premiums. Further, several individual-level factors identified by information processing models and consumer research that relate to quality judgments (e.g., covariation beliefs or heuristics, processing and consumption orientations) are explored in the context of the consumer's brand judgments that lead to price premiums.

Overview of the Research Methodology

An experiment was conducted to test the relationships stated as hypotheses in Chapter III. The design is based on past work that has examined how information cues are used in brand judgment settings when factors affecting information processing are varied.

The basic approach was to provide subjects with the opportunity to evaluate brands by observing brand-by-attribute matrices that included information in the form of brand names and price (extrinsic cues) and "objective" ratings (intrinsic cues). Exhibit 14 in Appendix 1 shows the actual brands and attribute values used in the study. The process by which they made between-brand judgments and the outcomes in terms of price premiums were examined using the Mouselab methodology, described below. Experimental conditions were created by manipulating and measuring antecedents to motivation in a manner described below. Exhibit 1 in Appendix 1 contains a list of constructs and operationalizations used in the experiment.

Procedures. Subjects were run in groups of up to six using the Mouselab computer methodology (Johnson, Payne, Schkade, and Bettman 1986). Mouselab presents subjects with an

information display consisting of brand-by-attribute matrices and tracks subjects' information processing by unobtrusively recording the number of pieces of information examined and the time spent examining this information. The experiment was a 2x2 mixed between-within experimental design, with involvement and brand evaluation motive the manipulated independent variables. Economic concern and need for cognition were measured independent variables. ANOVA and regression were used to analyze the data. The time spent examining brand attribute information, the sequence of information search, and outcome measures of judgments (e.g., purchase intentions, willingness-to-buy measures) were the primary dependent variables. Chapter IV provides more detail about the research methodology.

Overview of Contribution

As a general domain of inquiry, price premiums have been the focus of much research attention over several decades. The economics-based research has highlighted important consumer welfare implications, while the brand equity research has emphasized implications for firm performance. Thus, price premiums are a fundamental concern to marketing and consumer behavior researchers. Yet, despite this attention, many questions remain unanswered. Recognizing the potential to integrate these two areas, this dissertation seeks to provide insights from a consumer behavior perspective into the factors underlying the existence of between-brand price premiums. Understanding how consumers process information in between-brand evaluations, and how changes in information conditions may impact price premiums for a brand name, is important for both researchers in this area and for marketing managers.

Substantively, this dissertation adopts a consumer behavior perspective on price premiums, and focuses on information processing factors that may impact on them. Understanding these factors is important for brand managers to be able to make strategically sound pricing and promotion decisions. For example, managers would benefit by being able to identify conditions that may predispose individuals to make between brand evaluations in such ways that reduce the impact of quality judgments (such as might occur with perfect knowledge of objective quality equivalence). The proposed framework identifies several ways this may be so (e.g., changing

consumers' evaluative criteria to reduce a focus on objective value).[3]

Additionally, the research is substantively relevant to those interested in consumer welfare. Insights obtained from brand equity and other consumer research, as well as from social information processing models, suggest that often brand choices are not made solely in deference to accurate quality determination. Linking the brand equity concept to the information processing model factors may allow researchers to qualify how value is derived from brands, and when it is more or less appropriate to ascribe price premiums to consumer ignorance.

Conceptually, a focus on the notion of objective quality from a consumer-oriented, information processing perspective would prove useful to consumer researchers for a number of reasons. This view is enlightened by the contributions of brand equity, both theoretically and from a methodological point of view. Theoretically, the hypothetical equivalence on objective quality of comparison brands assumed in a brand equity perspective is a useful way of conceptualizing the price premium problem. This financially-based measure of brand equity may be considered a rough measure of the firm's persuasion efforts, taking into account the information constraints consumers face in brand choice.

An information processing perspective derived from persuasion models (attitude formation and change) is useful for a number of reasons. It combines informational aspects that overlap with the economics of information view (ability, motivation, opportunity) and is compatible with findings from the cue use paradigm (e.g., Olson 1972; Purwar 1982). Further, it is compatible with the attitude measurement approach offered by the brand equity literature (the theory underlying multi-attribute attitude basis of conjoint methods and their practical application). Additionally, because these dual-process models have received so much attention in recent years, factors influencing the processing and outcomes of judgment have been relatively well explicated

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[3]Anecdotal evidence of the former strategy put into practice comes from a relatively recent television advertisement by Pepsi that spoofed the film, "*Field of Dreams*." In this commercial, the ghost of a man's father comes out of a corn field in an old baseball uniform, and receives a can of soda from the son. The father regards the can quizzically and remarks, "This isn't a Pepsi," to which the son replies, "I know, I saved nine cents!" The father, disappointed almost to exasperation shakes his head and walks away, leaving the son (and us) with the message: don't base your brand choice on a judgment of "value" and buy lower-priced brands because a Pepsi is more than "just a cola."

(e.g., Eagly and Chaiken 1993; Petty, et al. 1997). They may offer much in the way of integrative capabilities for judgments that are analogous in the consumer context. In this case -- because the focus is on the central issue of price premiums -- the interest is in judgments (evaluations, purchase intentions) which the consumer must make in order to decide between brands. These judgments may be related to the factors identified by extant research as important and common to both the social judgment and the price premium domains of inquiry. One factor of special interest here is the involvement construct and how it relates to the paying of price premiums.

Overview of Remaining Chapters

The dissertation is organized as follows. In the next chapter, extant literature on price premiums is reviewed; this entails the two predominant perspectives discussed previously, economics of information and brand equity. Further, the chapter reviews information processing research on consumers' brand judgments that may be applied to price premiums, with an emphasis on the involvement construct and on consumers' economic concern. This chapter develops the primary research questions and the rationale for exploring them. Several research questions evolve from this discussion. The third chapter develops a conceptual model and formally presents several hypotheses. The fourth chapter discusses the research strategy designed to test them. The fifth chapter presents the empirical results and provides a brief discussion of them. The final chapter expands upon the previous discussions of study results. General conclusions are drawn here and the limitations of the study are discussed, with a final section devoted to exploring future research directions.

Chapter Summary

This chapter gave an overview of the dissertation. Issues surrounding the concept of between-brand price premiums were discussed from two, somewhat antithetical research perspectives, information of economics and brand equity, in order to justify the importance of the topic. The two research streams were briefly outlined to point up inconsistencies and underexplored areas in the literature. Next, information processing research in consumer behavior relevant to brand evaluations was briefly examined, with a focus on the role of involvement and economic concern in determining information processing motivation. Then an overview was provided of a conceptual model proposed to augment current understanding of the

factors underlying price premiums. Several propositions to be examined in this dissertation were presented along with a brief summary of the method used to test them. The contribution of this research to the domain of inquiry was discussed.

CHAPTER II
LITERATURE REVIEW

Chapter Overview

Between-brand price premiums have been the focus of much research attention because of the important implications for both the firm and the consumer. Price premiums for a brand name measure the success of a firm's brands and, conversely, the ability of the consumer to make "smart" brand choices in the marketplace. Several accounts for why price premiums exist have appeared from economic perspectives (e.g., Maynes and Assum 1982; Rao and Bergen 1996; Stigler 1961), and from marketing perspectives (e.g., Keller 1993; Park and Srinivasan 1994; Swait, et al. 1993). Further, much consumer behavior research on consumers' brand judgments, conducted from various information processing perspectives, may bear on the issue of price premiums because of its implications for judgmental accuracy. Yet, despite this research attention, several questions have not been sufficiently addressed: What factors may affect a consumer's motivation to process information in a brand judgment context? Do changes in this motivation affect the paying of price premiums?

The goals of this chapter are to: (1) critically review extant literature on price premiums, (2) review consumer research relevant to the judgments of product quality, and (3) develop research questions based on these reviews. This will set the stage for the conceptual development in Chapter III where the theoretical framework for exploring price premiums is derived.

In this chapter, literature pertaining to the issue of price premiums is reviewed first. Then, research in consumer behavior related to the concept of objective value is reviewed. The price premium literature is divided into economics-based research and brand equity-based research. The first section discusses price premiums from the perspective of the economics of information and gives definitions and examples used in that literature. Issues related to the information asymmetry are discussed in this section. The second section discusses price premiums from the perspective of brand equity research. In this section the brand equity concept is defined and discussed. The third section reviews consumer information processing research that bears upon

the issue of objective value. Three main factors are explored as information processing constraints, ability, opportunity, and motivation to process information. Motivation is explored in more depth, with a focus on the role of involvement, motives, and economic concern in the consumers' processing of information and subsequent brand judgments that may influence price premiums. From the preceding reviews, research questions are formulated and the need for a theoretical framework to answer them is discussed. The last section contains a summary of this chapter.

Review of the Literature

Economics of Information View of Price Premiums

This section defines price premiums from the economics perspective and discusses theoretical accounts for why they exist. This discussion points up three main sources proposed to underlie price premiums: ability, opportunity, and motivation for consumers to undertake more effortful information processing. Next, empirical tests of these propositions are examined for their contributions and limitations.

Definition of Price Premium. A price premium is the difference between a "superhigh" price paid and the perfectly competitive one expected for a given level of quality output (Rao and Bergen 1996). It can be thought of as "the excess price paid, over and above the '*fair*' price that is justified by the '*true*' value of the product" (Rao and Bergen 1992, p. 412 -- italics added)[4]. Both between-brand and between-store price premiums have been studied and are thought to be reactive to the same set of factors (Maynes and Assum 1982). I limit discussion solely to between-brand price premiums and refer to them henceforth as simply price premiums.

Information Asymmetry. The "traditional" position taken on price premiums by the information economists (e.g., Lancaster 1975; Maynes 1979; Maynes and Assum 1982; Rosen

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[4] Such terms as "fair" price and "true" value imply normative considerations--i.e., what is fair is an invariably value-laden judgment, and what is true assumes that an agreed-upon objective truth exists, and moreover, is relevant to the person. Issues surrounding the existence of an appropriate objective standard by which to compare judgmental accuracy has been discussed in general (Kruglanski 1990), and specifically with regard to objective quality (Archibald, Haulman, and Moody, Jr. 1983; Curry and Faulds 1986; Hjorth-Andersen 1984, 1986; Sproles 1986; Zeithaml 1988).

1974; Stigler 1961) is that they arise through the information asymmetry. The information asymmetry occurs when the producer knows more about the product's quality than the consumer does (Rao and Bergen 1996). It is "at the heart of the traditional economic explanation for price premiums which has emphasized consumer ignorance" (Rao and Bergen 1992, p. 413). Ignorant or uninformed consumers end up paying higher prices (Urbany 1986). Thus, price premiums (a.k.a., price dispersion) are evidence of market inefficiency. Where brands (as opposed to stores) are concerned, market inefficiency can be studied by examining the number of inefficient brands in a product market and the magnitudes of their respective inefficiencies. An inefficient brand is one for which its configuration of quality -- its constellation of objective-quality attributes -- may be purchased more cheaply (Kamakura, Ratchford, and Agrawal 1988). Some researchers (Lancaster 1966; Rosen 1974) have defined the efficiency of brands and markets with respect to an "efficiency frontier" or "Perfect Information Frontier" (Maynes and Assum 1982). This frontier is a line connecting brands at different overall quality levels that are sold at the lowest price in a particular market. The assumption is that these brands represent the "best value" choices consumers can make under perfect information conditions (Bei and Heslin 1996; Maynes and Assum 1982).

Sources of the Information Asymmetry. What are the sources of the information asymmetry? An assumption made in the economics literature (and subsequently put to empirical test--see studies cited in Schmidt and Spreng 1996) is that valid quality information is costly in terms of aversive search effort, money, and time. To gather information (to perform external search) consumers must possess some requisite level of factors related to ability, such as knowledge or expertise, and motivation, such as involvement (Schmidt and Spreng 1996). Motivation is understood as it relates to consumers' desire to maximize the objective value of their purchases, and is typically based on cost/benefit considerations. Information about quality and price is searched for as long as the expected marginal return of search exceeds expected marginal costs (Stigler 1961). Therefore, one would expect markets for high-price items to be more efficient, ceteris paribus, than low-price items, because consumers should be motivated to undertake more search (Kamakura, Ratchford, and Agrawal 1988).

Although not explicitly stated in Schmidt and Spreng's model of external search, several

factors studied relate to the concept of "opportunity" to gather information, for example having sufficient time and available information. Several researchers (Nelson 1970; Darby and Karni 1974) have proposed that products may be categorized on the basis of whether or not they present the opportunity to gather accurate information on product quality before the consumption experience (or even after), and that this opportunity affects the information asymmetry. According to Nelson (1970), products may be dominated by *search* attributes, product quality attributes that can be determined prior to purchase, or *experience* attributes, product quality attributes that cannot be determined prior to purchase. Darby and Karni (1974) extend Nelson's thinking by advancing the notion of *credence* goods, products for which quality cannot be determined with accuracy even after long use. Search, experience, and credence goods have been proposed to differ in the amount of price premium that characterizes their respective product markets both formally (Rao and Bergen 1996) and informally (Bello and Holbrook 1995), yet strict empirical assessments of this proposal in the marketing literature are scarce (one exception is Rao and Bergen 1992, discussed below). A propositional paper by Rao and Bergen (1996) outlines several causes of price premiums related to the probative value of information on objective quality (e.g., availability of information, consumers' expertise in using this information.)

Empirical Studies

Rao and Bergen (1992) tested the search versus experience distinction in relation to consumers' differential desire for high quality. In their study, "quality consciousness" reflected motivation to undertake search for quality information. They hypothesized that high quality conscious buyers for search products (those for which quality-relevant attributes are validly interpretable pre-purchase) should pay lower price premiums. Discerning quality for price accurately, they decrease their "tendency to offer" price premiums and keep "opportunistic sellers" at bay (p. 414). For experience products (quality cannot be validly interpreted pre-purchase), they argue that price premiums should be higher because the consumer is attempting to *assure* high product quality, in essence on a contractual basis with the seller. In their view, the consumer *proactively* influences the seller's prices: "Well-informed or motivated consumers should be able to monitor supplier's quality and prevent dishonesty" (p. 413). Their results

support this interpretation.

However, generalizability of their results and interpretation of them may be limited for a number of reasons. First, they used a survey of professional purchasing managers whose behavior should reflect a highly rational, value-oriented decision process, unlike everyday consumers whose behavior should vary widely in this regard. There are probably other factors involved in these managers' decisions, such as accountability for their decisions. Second, it is unlikely that everyday consumers feel personally empowered with regard to the prices charged by manufacturers in consumer markets (I know I do not). The willingness to pay a price premium may occur in a more or less heuristic manner, with perhaps only dim recognition (or none at all) by the consumer that it occurs as an implied "quality guarantee." Finally, lay consumers may not even be aware that they are paying price premiums: a study by Olshavsky and Granbois (1982) suggests that many consumers do not even know the prices they paid for grocery items when asked immediately after exiting the store.

Other empirical research in the information economics vein has yielded equivocal results regarding consumer search and price premiums (e.g., Goldman and Johansson 1978; Kamakura, Ratchford, and Agrawal 1988; Urbany 1986). Goldman and Johansson (1978) used the economics of information framework provided by Stigler (1961) to examine the factors that determine consumers' search for lower gasoline prices. According to Stigler's formulation, search for lower prices will be undertaken as long as the marginal revenues of additional search exceed the marginal costs. That is, consumers who expect to gain more from search (monetary savings) will be more likely to undertake additional search. They used panel data of family gasoline purchases for the year 1972.

They augment the basic model in two ways. First, they include behavioral and perceptual correlates to the costs and gains associated with search, in an attempt to overcome the measurement problems typically encountered in using this type of framework. For example, they use variables related to opportunity costs (e.g., income) and search efficiency (e.g., education, market experience) to represent search costs. They also consider the amount purchased and the perceived price variability to reflect gains from search, both of which should be positively related. These constructs are central to the economics of information theory. Second, and most

relevant to this discussion, they include additional shopping goals that should moderate the impact of costs and gains on search expenditure. Three goals are measured: service seeking, quality seeking, and convenience.

Their regression analysis revealed that, overall, the economics of information theory did not explain much variance in search effort (r-square = .14). All variable relationships were non-significant at $p<.05$, with the exception of one "STATIMP." This factor, which signified the importance of choosing a service station (the service goal), explained about a third of the variance. The factor contained three importance-rated items, one each relating to the honesty and reliability of attendants, competency in repairs and maintenance, and selling a well-known brand. All of these, especially the last one, represent important deviations from the basic tenets of the theory.

An additional analysis conducted on the relationship of several factors to buying outcomes (the paying of lower prices) revealed several relevant and interesting significant relationships. First, the propensity to undertake added search was negatively related to the mean price paid: additional search led to lower prices paid. Perceptions of quality differences and the importance of the service aspect (including the selling of a well-known brand) were positively related to mean price paid: consumers paid more when their goals were to obtain higher (perceived) quality. And finally, two variables were marginally significant ($p<.10$). Age (connoting market experience) was negatively related to mean price paid, and a dummy-coded variable reflecting when the primary purchaser was a working woman (presumably, increasing the importance of convenience) was positively related to mean price paid. Although non-significant, the relationship between the goal of convenience and mean prices was, as anticipated, in the positive direction. Also, the authors cite numerous studies showing that education generally increases the efficiency of search (which should lead to the paying of lower prices); however, the non-significant relationship was in the opposite direction.

Taken together, the findings of Goldman and Johansson (1978) add several insights related to the paying of price premiums. First, they show that--at least for gasoline--the economics of information theory did not tell the whole story. They acknowledge that for product market situations in which the gains from added search may be small, other theories may better apply.

Second, the study illustrates the importance of considering other shopping goals, rather than the implicitly assumed "rational" value maximization motive, that lead to different outcomes for the paying of price premiums (although this was not their stated purpose).

A study by Kamakura, Ratchford, and Agrawal (1988) sought to measure market inefficiencies for several different product types. They use a linear programming model that calculates the efficiency of all brands competing in a market, based on measured quality attributes and price, and they are able to obtain estimates of price differentials between efficient and inefficient brands. Efficient brands are those that offer the lowest price for a given level of quality on a given configuration of attributes (therefore, many brands in a given product class may be judged equally efficient). In a summary analysis examining twenty different product types and calculating a mean inefficiency for each category, they were able to test whether certain types of product markets are more or less efficient. The authors note that the magnitude of a loss due to inefficiency will increase with the product's price, and they contend that this increased loss should lead to more search (based on Stigler 1961); hence, lower-priced items (i.e., "low-involvement" products) should be characterized by greater inefficiencies. A regression analysis supported this expectation, with bar soap having the highest mean inefficiency and microwaves and humidifiers the lowest. However, not all products were ordered according to this prediction: paper towels were among the most efficient product classes; smoke detectors among the least. These discrepancies were unresolved.

The authors also provide an in-depth analysis of the automobile market for 1984 and conclude that it is highly efficient and that there is relatively little loss to consumer welfare. This efficiency, they argue, is caused by the high effort invested by consumers to gather and process information to make efficient brand choices. Interestingly, most of the inefficient models were found in cases where brands were being compared with "their corporate twins"--e.g., Dodge Daytona/Chrysler Laser, a result the authors found surprising given that the two brands were offered at the same dealer. Given the foundational assumptions regarding search in the economics of information frameworks, this is surprising: presumably these price differences should not exist because highly motivated consumers should make better value choices. The authors explain that this discrepant finding may be caused by failing to measure small price

differences due to minor attributes (e.g., fancy trim). However, the apparent failing of the economics of information framework may also be attributable to differences in consumers' subjective beliefs about the symbolic appeal of the brands under consideration, as suggested by brand equity research. In other words, perhaps even brand choice of expensive products, like cars (considered to be a "high involvement" product), are made in deference to other motives. I turn now to the brand equity view of price premiums.

Brand Equity View of Price Premiums

From the firm's perspective, a price premium for a brand name is central to most accepted definitions of brand equity. The Marketing Science Institute defines brand equity as " ... the value that is added by the name and rewarded in the market with better profit margins (a.k.a., price premiums) or market shares (a.k.a., market share premiums)[5]. It can be viewed by customers and channel members as both a financial asset and as a set of favorable associations and behaviors" (Baldinger 1990). The concept of brand equity originated as firms attempted to place a monetary value on a brand name in order to recognize it as an asset to be included in the firm's financial statements, e.g., for purposes of acquisition or divestiture (Barwise 1993b; Kamakura and Russell 1993; Simon and Sullivan 1993; Srivastava and Shocker 1991; Swait, et al. 1993). Of the numerous approaches taken for quantifying firm-based brand equity, none has achieved a superior position (see Simon and Sullivan (1993) and Srivastava and Shocker (1991) for reviews of financial techniques).

According to most brand equity measurement studies, brand equity is the value added by the brand name to the product, above and beyond physical attribute levels (Barwise 1993b; Farquhar 1992; Kamakura and Russell 1993; Keller 1993; Park and Srinivasan 1994; Srivastava and Shocker 1991). That is, the effects on the consumer are attributable to intangible elements above and beyond the tangible attributes of the product (Barwise 1993b; Bello and Holbrook 1995; Farquhar 1990; Kamakura and Russell 1993; Keller 1993; Srivastava and Shocker 1991).

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[5] The focus here is on price premiums as a metric of brand equity. However, it should be noted that brand equity studies have measured both price and market share premiums, holding one constant and letting the other vary (e.g., Park and Srinivasan 1994).

For purposes of brand equity measurement, some "objective"[6] standard (e.g., *Consumer Reports* or expert ratings) can be used to determine product attribute levels which are compared to the brand's prices for that bundle of attributes (e.g., Bello and Holbrook 1995), or consumers' preferences and attribute perceptions (e.g., Park and Srinivasan 1994). Other methods to determine this incremental value have been suggested, such as taste tests using the same product with and without the brand name (Keller 1993) or conjoint analysis of consumer's preferences for branded versus unbranded goods (e.g., Rangaswamy, Burke, and Oliva 1993). An important consideration is that for brand equity to exist, the consumer's beliefs about the brand's superiority must not be borne out by the product's measured attribute levels. Some consumer beliefs "may reflect the objective reality of the product, in which case no brand equity may be present, but in other cases they may reflect favorable, strong, and unique associations that go beyond the objective reality of the product" (Keller 1993, p. 8). Keller notes that if the brand is considered to be prototypical in the category, consumers should not differ in their response between it and a hypothetical product or service of same objective quality. Thus, they should not be willing to pay a higher price for it or choose it more often than a "no name" brand.

One main contribution of the brand equity literature is the concept of an objectively identical but otherwise unbranded product which is compared to the brand of interest. This concept allows brand effects to be measured in increments above a commodity product. In other words, we may more easily comprehend the meaning of a brand to consumers through this conceptualization. For some products the "unbranded" or commodity-status product often works better in theory than practice. For example, it would be difficult to conceive of the unbranded equivalent of a Rolex. However, the conceptualization works well with the majority of consumer non-durables where there are many competing brands and little, if any, real product differences. It is especially applicable to situations where a product is produced by a national brand manufacturer and sold as a private label. This framework also can be applied for some consumer

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[6] Zeithaml (1988) argues that even so-called "objective" measures are based at some level on human perceptions, and thus, objective quality may not exist. Specifically in the context of brand equity, Bello and Holbrook (1995) note the difficulty of finding an acceptable measure of objective quality.

durables (e.g., consumer electronics, automobiles) when they are essentially the same, and when the same product rolls off a manufacturing line and is labelled with two different brand names.

Customer Perspective. A conceptualization of brand equity from the customer's perspective was developed by Keller (1993). In this view, brand equity is seen as the effect of brand knowledge on consumer behavior toward a branded product versus an objectively identical but unbranded one. According to Keller, the customer must have "strong, favorable and unique associations" in order for positive brand equity to exist. While useful as a measurement approach, it has been criticized as being a descriptive, not a predictive, framework (Feldwick 1996). Further, Keller's use of the term "knowledge" is incongruous with usage of the term in many consumer behavior studies that have examined the role of knowledge in consumer judgments. Knowledge is typically seen as an ability factor that enables consumers to use intrinsic attributes, as opposed to relying on extrinsic attributes (e.g., brand name or price), in product evaluations (e.g., Rao and Bergen 1988; Rao and Sieben 1992). Thus, conditional upon other factors (e.g., motivation, opportunity) high knowledge (ability) often may lead to lower willingness to pay a price premium for a brand name. Finally, Keller does not address fundamental issues that may affect the level of brand equity (as price premiums), such as a consumer's attempt to maximize value in brand choice or information asymmetry factors. This criticism notwithstanding, Keller makes a substantial contribution by emphasizing that the consumer's (subjective) perceptions and behaviors are what contributes to the firm-based brand equity. Consumers' biased preference for certain brands results in a firm having high brand equity as market share and price premiums.

Brand Equity Research On Price Premiums. Under the rubric of brand equity research, price premiums for the brand name have been studied (Bello and Holbrook 1995; Holbrook 1992; Kamakura and Russell 1993; Park and Srinivasan 1994; Swait, et al. 1993). Holbrook (1992) found very little evidence of brand equity as a price premium for a brand name in two studies using various consumer electronics (home audio and theater) products. The author used regression with price as the dependent variable, with measured attribute levels (from *Consumer Reports* and a *Crutchfield* catalog) and brand name as independent variables. Any significant contribution to price from the dummy-coded brand names would indicate brand equity.

However, both studies indicated that the attribute levels and overall quality indices explained the majority of the price variance for all six product types examined. Only a marginally significant brand name effect for Panasonic (p=.06) was found in the first study, and a significant brand name effect for Carver (p=.02) in the second. One possible explanation for this absence of a price premium for brand names is that brand decisions may be made in this product category on the basis of technical attributes, that is consumers are primarily evaluating the product based on its function. Moreover, consumers should be motivated by higher risk (they have higher situational involvement, see Bloch and Richins 1983; Laurent and Kapferer 1985) and are also able to use published reports and the expertise of salespeople.

A later attempt to generalize these finding to other product classes (coffee, popcorn, colas, recording tapes, automobiles), revealed similar null results, with the exception of coffee (Bello and Holbrook 1995). The authors speculated in the later study that perhaps coffee differs from the other products in the extent to which its quality is unobservable and highly subjective, emphasizing the role of the brand name in consumers' judgments. While this is a plausible explanation, it would seem to apply equally to the cola category, where no brand effects were found. That the study found no price premiums for the brand name seems counter-intuitive, given the vast amount spent on advertising for many of the brands studied (e.g., Coke, Pepsi). One alternative explanation for their null results is that their regression models included an overall quality rating for each brand, which is a higher level abstraction than attribute ratings; including both in one model, especially when lower level attributes are duplicated, may limit its validity and confuse interpretation of results (Myers and Shocker 1981; Zeithaml 1988). Hence, using other methods that are more sensitive to determining brand-specific effects on prices may have found significant results.

A more sensitive approach based in conjoint analysis was used by Park and Srinivasan (1994). These authors argued and showed empirically that the price premium (and market share premium) attributable to the brand name could be conceived of as based in two components, attribute-based and nonattribute-based. The attribute-based component of brand equity is attributable to consumers' favorably biased attribute perceptions, or the difference between perceived and objective quality. Objective quality is the level of "actual technical superiority or

excellence of the products" (Zeithaml 1988, p.4), while perceived quality is the consumer's subjective judgment of this level of excellence. Objective quality is based on unbiased measurement of attribute levels (Riesz 1978; Zeithaml 1988). The nonattribute-based component is a function of symbolic, image-oriented brand associations created by advertising that emphasizes user or usage imagery or mere exposure effects. This two-factor view of the price premium meshes well with research on consumer's needs and goals for product use (Park, Jaworski and MacInnis 1986), as well as the benefits obtained from brand names that satisfy those needs (Keller 1993). Functional benefits are related to product performance (e.g., stain removal); experiential benefits are related to sensory pleasure or stimulation (e.g., a premium ice cream's richness); and symbolic benefits satisfy needs of personal expression or enhancing social identity (e.g., wearing a high status brand of clothing). The first two types of benefits are more closely related to product attributes -- i.e., objective quality -- than the latter one (Keller 1993)[7]. Therefore, certain factors may affect perceptions of functional and experiential benefits that may not affect perceptions of symbolic benefits. Based on past work, the authors suggest (but do not test) that the attribute-bias component may be influenced by such factors as ambiguity of product experience, knowledge, and expertise. These factors are related to the probative value of information on objective quality, i.e., its availability and the ability of the person to used it to make accurate quality judgments, in line with the information of economics approach.

Swait, et al. (1993) use principles from the economics signalling literature to explain the incremental value of a brand name. They argue that, "brand names function as signals in the marketplace, reducing consumers' perceived risk and information costs, which, in turn, underlie 'the additional utility not explained by measured attributes,' a definition of brand equity adopted by Louviere and Johnson (1988) and Kamakura and Russell (1993)" (p. 26.) By using a theoretical framework based on information economics, they are able to propose conditions

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[7] Keller argues that experiential benefits (e.g., taste) should be more closely related to functional benefits and actual product attributes (i.e., objective quality). Others (e.g., Park, Jaworski, MacInnis 1991) have placed experiential and symbolic needs (i.e., benefits sought) together. My position (supported in pre-tests) is that these relationships depend on the particular nature of the consumption experience, and "experiential" products may be classified as "experiential-functional" (e.g., breakfast cereal, milk) and "experiential-symbolic" (e.g., fragrance).

under which the brand name may be relied upon more heavily. One of these conditions is uncertainty about a product's quality arising from inadequate information. However, their conceptualization is limited by the assumption, common to economics-based approaches, that information on quality is used in a rational, value-maximizing manner.

Summary. The brand equity literature provides useful concepts and methods that may help to shed light on the issue of price premiums. First, it has given us the concept of brand equity as the incremental value to the firm (e.g., a price premium) attributable to the brand name's influence on a consumer. This conceptualization is embodied in the notion of an objectively identical, but unbranded product that is used for comparison. Thus, at least hypothetically, the effects of the brand name on the consumer may be examined. Second, research on brand equity as price premiums has raised questions regarding the types of products for which it may (not) exist, and the underlying reasons. Third, brand equity measurement studies using conjoint approaches have shown that price premiums can be conceived of as being comprised of two fundamentally different components: biased attribute perceptions and an "image" or symbolic component (Park and Srinivasan 1994). The results of Park and Srinivasan suggest that a price premium for a brand name involve factors related to utilitarian needs as well as symbolic or expressive needs, and that different factors may affect each component. However, they do not test these suggestions, nor provide a theoretical account of how such factors are related to brand equity. An approach taken by Swait, et al. (1993) relates the price premium to information asymmetry factors, but is silent regarding possible causes unrelated to information. An information processing approach that incorporates different needs and relates them to the use of information is needed to provide a more complete picture of price premiums. These ideas will be explore further in Chapter III, the conceptual development. For the present, I address research related to consumer's processing of brand judgments that may relate to price premiums.

Information Processing Research Related to Price Premiums

Several lines of consumer behavior research examining consumers' brand judgments (e.g., evaluations, purchase intentions, choice) using information processing models may be applied to the concept of price premiums. An AMO (ability, motivation, opportunity) framework will serve as a guide to present this research. A similar tripartite view has been used to organize the major

antecedents to information processing in persuasion (ELM, H-S), information processing from advertising (Batra and Ray 1986; MacInnis and Jaworski 1989), learning of product information (Hoch and Deighton 1990)[8], and external information search (Schmidt and Spreng 1996). In practice each major antecedent factor may be difficult to entangle (Andrews 1988). Some authors have chosen to include ability and opportunity as one factor, "ability" (Petty and Cacioppo 1986). Like others, I present them as three factors to distinguish between constructs under consumers' ability (e.g., objective knowledge, expertise) and those that are environmentally derived (e.g., search versus experience goods, time availability).

This review will discuss representative research that addresses each of these three major factors and their impact on the processing of information to reach brand and product judgments. The goal is to describe the major findings and logical relationships between the major AMO constructs preceding judgment, processing mode, and types of information used. *Judgment* refers to a product or brand evaluation, typically a three-item summed attitude scale (e.g., "good-bad," "like-dislike," "favorable-unfavorable"), a global product quality assessment, or a purchase intention measure. *Processing mode* refers to how information is processed, and may be viewed prototypically (for the sake of expositional ease) as a dichotomy existing of high and low endpoints, each differing with respect to the amount of effort required to perform, the level of inference, and the usage of qualitatively different types of information This is similar to the processing mode distinctions of the dual-process models (ELM, H-S). *Type of information used* refers to the many different information cues available at the point of judgment. This information may be internal (e.g., prior evaluations formed through advertising, product knowledge) or external to the person (e.g., intrinsic cues, extrinsic cues). Extrinsic cues, compared to intrinsic cues, are easier to apprehend and use in product judgments (Purwar 1982). Similarly, internal information, if available, is easier to process, all else equal, than external information. I will begin with the ability factor.

Ability

Systematic information processing is negatively affected by ability constraints (Chaiken,

[8] These authors did not use the terms ability and opportunity, but used analogous concepts (familiarity with the domain, motivation to learn, and ambiguity of product information).

Liberman, and Eagly 1989). One ability constraint is product knowledge, although it has a complex relationship to the mode of brand information processing (Alba and Hutchinson 1987). High knowledge facilitates both internal and external search, making it easier and more interesting to comprehend information useful for making systematic quality judgments. Also, experts may put more weight on, and ignore less, intrinsic cues than novices. However, because of their prior experience with a product category, high knowledge consumers may be prone to heuristic use of extrinsic cues (Park and Lessig 1981). Novices too, may be more likely to use extrinsic cues, because their low knowledge constrains analytical reasoning (Alba and Hutchinson 1987). Low knowledge buyers tend to infer quality from price more often than experts (see Rao and Monroe 1988). Hoyer and Brown (1990) found that inexperienced consumers, when presented with a brand-selection task, used the brand awareness heuristic ("buy the best known brand") as the dominant choice rule. Decision makers at a low level of product familiarity (knowledge) feel more confident in relying on extrinsic cues like price and brand name than on intrinsic cues (Park and Lessig 1981). Rao and Sieben (1992, p. 256) argue that more knowledgeable consumers should be less willing to pay a price premium because they should be "more aware of the actual quality and, hence, the value of the product." That is, value perceptions are influenced by the type of information consumers have access to, and these perceptions should influence consumers willingness to pay a price higher than that which is commensurate with the product's quality. Rao and Monroe (1988) found the relationship between product knowledge and inferential use of the price cue to be "U" shaped, with moderate-knowledge basing their quality judgments on deeper processing of brand information. In sum, it appears that processing of product quality information is inhibited by a lack of product knowledge; however, quality inferences based on extrinsic cues may be performed by both experts and novices, with experts arriving at more accurate judgments.

Opportunity

In order to process information on objective quality, consumers must have the opportunity, i.e., the information must be available and unambiguous, and they must have sufficient time available to them. In a meta-analysis of the effect of price and brand name on quality perceptions, Rao and Monroe (1989) found that the less information about product quality is

available, the more extrinsic cues like price are relied upon. Although they suggest this finding may be artifactual, it is consistent with the economic signalling framework and empirical evidence (e.g., Gerstner 1985) that if product quality is not easily observable, then consumers rely more on the price cue as a signal to infer product quality. Zeithaml (1988) summarizes research evidence to support her proposition that the use of extrinsic cues as quality signals depends in part on the availability of other cues to quality, such as readily available intrinsic cues. In line with an AMO interpretation, she argues that "extrinsic cues are posited to be used as quality indicators when the consumer is operating without adequate information about intrinsic attributes. This situation may occur when the consumer (1) has little or no experience with the product [ability], (2) has insufficient time [opportunity] or interest [involvement] to evaluate the intrinsic attributes, and (3) cannot readily evaluate the intrinsic attributes [opportunity]" (p. 9). Dawar and Parker (1994) summarize research on cue utilization and make a similar assertion regarding information availability. Finally, Broniarczyk and Alba (1994) studied the role of consumers' intuitions in making interattribute inferences. These inferences refer to cases in which missing product attribute values are inferred from another attribute of the same brand (e.g., quality from price). They demonstrate that these inferences are most likely to be made when consumers wish to reduce uncertainty about an important attribute that is difficult to assess either before or after trial, i.e., an experience or credence good.

Not only must information be available to consumers, it also must be perceived to be diagnostic in order to be used (Feldman and Lynch 1988). Ambiguous product evidence is non-diagnostic. Ambiguity is defined as "the potential for multiple interpretations of overall product quality" (Hoch and Ha 1986). Consumers use brand ratings information when it is accessible and unambiguous, rather than relying on evaluations formed through advertising (Miniard, Sirdeshmukh, and Innis 1992). Further support is provided by work that shows when information on product quality is ambiguous, advertising has the most potential to bias brand evaluations (Ha and Hoch 1989; Ha and Hoch 1986). These authors cite past studies that have demonstrated biases in product perceptions that result from excessive reliance on prior expectations (i.e., attribute covariations). Ha and Hoch (1989) found that when subjects were externally motivated to engage in systematic processing ("exhaustive, bottom-up processing," p.

359), their product evaluations were less biased by the effects of advertising.

Time pressures limit ability to process brand judgments using detailed information processing. Payne, Bettman, and Johnson (1988) found that consumers will ignore certain pieces of information and switch to simplifying heuristics when making a choice under time pressure. Schellink (1983) found that extrinsic cues are used more when time pressure is high. In a seminal study on the determinants of attitudes toward private label brands, Myers (1967) found that the strongest predictor of these attitudes was "socio-occupational group," that is, whether the respondent was a housewife or a working woman. Working women's preference for national over private label brands, Myers explained, was attributable to their greater need for convenience. The data did not support alternate explanation based on differences in disposable income. Park, Iyer, and Smith (1989) found that consumers under high time pressure have difficulty assimilating attribute information with knowledge in memory, and thus were not able to optimize their choices.

Motivation

Much past research shows that the processing of information is influenced by the person's motivation. As in past research (e.g., MacInnis and Jaworski 1989; Mitra 1995), motivation is defined as the level of effort devoted to processing brand information. Consumers must be more highly motivated to use information that is more complex and less easily apprehended, such as intrinsic attributes (Mitra 1995). Similarly, they must be more motivated to engage in higher levels of external search (Schmidt and Spreng 1996). Ha and Hoch (1989, p. 359) found that when subjects were motivated "to engage in exhaustive, bottom-up processing," their interpretation of ambiguous external information was less influenced by advertising. In other words, they relied less upon prior evaluations (Biehal and Chakravarti 1986), hypotheses about product performance (e.g., Hoch and Deighton 1988) and other brand associations formed through advertising in product evaluation, and they were able to more accurately assess product quality by more effortful information processing. Using the Heuristic-Systematic model (Chaiken 1987) as a framework, Mitra (1995) found that price was used to infer quality when subjects' motivation was low. When motivation was high and subjects engaged in systematic processing, attribute information became the basis for product quality evaluations.

Motivation as Involvement. In consumer research, the motivation to process information has been viewed primarily in terms of the involvement concept (Celsi and Olson 1988).[9] Involvement is generally meant as "personal relevance" (see discussion below). Researchers have found it useful to dichotimize the construct (higher versus lower) in order to relate it to various behaviors of interest, such as processing of brand information from advertising, in product evaluations, and in decision making. In this sense involvement determines the degree to which judgments are processed via a central or peripheral route (Petty, Cacioppo, and Schumann 1983). Involvement has been further divided into situational and enduring components (Celsi and Olson 1988; Houston and Rothschild 1978)[10]. Enduring involvement represents a relatively stable, ongoing interest in a product or particular issue; situational involvement reflects the perceived personal relevance of a product introduced by each purchase occasion (Bloch and Richins 1983). Factors that may affect situational involvement include the price of the product, the complexity of the decision, and other situation factors such as perceived risk (Bloch and Richins 1983). Much past work has operationalized situational involvement as the imminence of making a choice about a product.

In an advertising context, a higher level of situational involvement has been associated with higher motivation to process information and more systematic processing of information, or conversely, reduced impact of peripheral cues on attitudes (e.g., Ratneshwar and Chaiken 1991; Petty, Cacioppo, and Schumann 1983). Celsi and Olson (1988) conclude that involvement is positively related to attention, cognitive effort, focus on product-related information, and more

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[9] One of the premier arguments made here is that the two are not identical, especially as they relate to the processing of different types of information. However, much of the work exploring the impact of involvement on information processing bears upon the current discussion of motivation. Therefore, I will present this work now and will treat involvement in more depth in a later discussion.

[10] Houston and Rothschild (1978) also discuss "response involvement," which represents the cognitive and behavioral outcomes of both situational and enduring involvement, and therefore is an indicator of the complexity of the judgment under question (Bloch and Richins 1983; Burton and Netemeyer 1992). Thus, it is seen as a *consequence* or reflection of the inner state of perceived personal relevance (Bloch and Richins 1983). As the interest here is in involvement's antecedent role in information processing, response involvement will not be further discussed.

elaboration of product-related information. Researchers have found that “high-motivation” (i.e., high involvement, as it has been considered in the studies currently considered) subjects extensively processed attribute information when forming brand evaluations, but that “low-motivaiton” subjects made their evaluations based on the favorability of the brand names with very little attention to attribute information (Maheswaran, Mackie, and Chaiken 1992). Later work showed high motivation (again, high involvement) lead to higher scrutiny of brand extensions, which supported that more effortful bookkeeping or subtyping processes were used (as opposed to the less effortful category-based processing) when making brand extension evaluations (Gürhan-Canlýand Maheswaran 1998). Still other research has shown that higher situational involvement reduces the impact of evaluations formed through advertising on later brand choice (Miniard, Sirdeshmukh, and Innis 1992).

Cue utilization research suggests that high involvement motivates more extensive processing of product attributes and reduces the impact of the brand, an extrinsic cue, on product evaluations (Dawar and Parker 1994; Mitra 1995; see also the discussion on low involvement decision making in Hawkins and Hoch 1992). This reasoning is supported by a study on enduring involvement and price cue usage (Zaichowsky 1988). Zaichowsky argues that price is used by those less involved in a product category because it is a readily available cue and requires less effort to apprehend and use. She states further that because "high involvement implies use of *more complex informational cues that pertain to the physical product characteristics*, some importance [i.e., weight in product evaluations] might be diverted from price to the importance of an intrinsic product cue" (p. 323, emphasis added). In her study, high involvement led to a decreased tendency to use the price cue in product evaluations.

Zaichowsky (1985) found that high involvement was positively related to several criterion behaviors, such as reading information about how the product is made, reading a *Consumer Reports* article about the product, comparing product characteristics among brands, as well as having a most preferred brand. Past research (Bei and Heslin 1996; Sujan 1985) has shown enduring product involvement to be positively correlated with product knowledge ($r = .22, .51$, respectively). Other work shows that involvement is positively correlated with "value consciousness,” the tendency for consumers to try to maximize the quality/price ratio in brand

choice by making more effortful between-brand attribute comparisons; the correlations obtained were .26 for enduring involvement and .40 for situational involvement (Lichtenstein, Netemeyer, and Burton 1990)[11].

Problems With Motivation as Involvement. From the research presented above, it appears that higher involvement is associated with the use of more probative information (e.g., valid arguments, intrinsic attributes, objective information sources) to form brand judgments. However, this line of reasoning implicitly assumes information processing to be guided by a utilitarian motive and involvement to be unidimensional. Other research reveals different patterns of information use and processing modes when other motives are salient (Park and Young 1986; Shavitt, et al. 1994). Past work in cue use does not distinguish possible effects of different motives and involvement on information processing and cue utilization. Note that ambiguity is a function of the information available in the environment. However, how external product information of varying ambiguity is interpreted and used in brand judgments may depend on how motivated the consumer is to process this type of information. This motivation is construed usually as "involvement." In fact in much work (e.g., Maheswaran and Sternthal 1990; Maheswaran, Mackie and Chaiken 1992; Mitra 1995; Gürhan-Canlýand Maheswaran 1998) operationalizations and manipulations of the construct are the same as the those used in earlier pioneering work with the Elaboration Likelihood Model (Petty, Cacioppo, and Schuman 1983). More recent work tends to favor the term “motivation” to the term “involvement,” but they have not distinguished the two concepts nor elaborated on the implications of differentially-motivated processing. In sum, this “involvement as motivation” is a limited view of the involvement construct (Laurent and Kapferer 1985; Park and Mittal 1985; Park and Young 1986). A more complete view of the involvement construct follows.

Involvement

Involvement has been researched extensively in consumer behavior since early work in social psychology by Sherif and Cantril (1947). Many reviews of this work have been provided

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[11] For enduring involvement, these authors used a revised version of Zaichowsky's (1985) scale developed by McQuarrie and Munson (1987). The authors further revised the scale to make it a measure of situational involvement, but do not report how this revision was accomplished.

in the past (see Laurent and Kapferer 1985; Greenwald and Leavitt 1984; Zaichowsky 1985). There is general agreement within this body of work that involvement means the personal relevance or importance of the issue (advertisement, product class, or decision situation) to a consumer (Assael 1981; Bloch and Richins 1983; Greenwald and Leavitt 1984; Mitchell 1979; Rothschild 1984; Zaichowsky 1985). In line with earlier work on ego involvement, Zaichowsky (1985, p. 242) defines involvement as "a person's perceived relevance of the object based on inherent needs, values, and interests" and constructed a 20-item scale ("Personal Involvement Inventory," PII) to measure enduring involvement with products. Her scale development and analysis was rigorous, and showed adequate reliability and unidimensionality. However, other involvement research (Laurent and Kapferer 1985; McQuarrie and Munson 1987) has suggested that the construct is not unidimensional, displaying several facets aligned with such factors as perceived risk and the sign or symbolic value of the product in question.

The enduring involvement measure seems to contain at least two -- possibly more -- dimensions. And despite Zaichowsky's (1985, 1988) findings between the PII and increased use of more probative information (intrinsic attributes, *Consumer Reports*, etc ...) in judgment, other work seems to indicate an implicit confound between enduring involvement and the social-symbolic value attached to a product (e.g., Beatty and Smith 1987; Bei and Heslin 1996). Beatty and Smith (1987) define ego involvement (i.e., enduring involvement) as "the importance of the product to the individual and to the individual's self-concept, values, and ego" (p.88). Their 5-item measure of the construct (alpha = .75) contained items such as "Because of my lifestyle, I feel this is a product that ought to be important to me" (p. 90). Contrary to their expectations, no relationship was found between ego involvement and the amount of external information search for several consumer electronics goods (VCRs, televisions, personal computers). Bei and Heslin (1996) found that consumers who are more involved with a product category make worse objective value choices, and attribute this finding to highly involved consumers being more influenced by image and prestige because they have more heavily invested their ego or self-concept in the product. They found that consumers with low involvement and high knowledge made the best value choices. Note the contradictory findings: low involvement consumers, in the views typically offered by information processing and cue utilization frameworks, should be

less likely to make use of more probative information in choice.

There seems also to be a similar problematical overlap in past research between situational involvement and economic considerations (e.g., Beatty and Smith 1987; Celsi and Olson 1988; Lichtenstein, Netemeyer, and Burton 1990). Beatty and Smith (1987, p. 88) define purchase involvement (i.e., situational involvement) as "the degree of care or concern felt toward the purchase decision or choice." However, despite their general definition of the construct as "care or concern," their 3-item measure of purchase involvement (alpha = .67) specified economic considerations: "I was very concerned about the economic consequences of making a poor or incorrect choice" (p. 90). In line with their predictions, they found that purchase involvement was a significant predictor of consumer's pre-purchase external information search. Celsi and Olson (1988) relate "situational sources of personal relevance" (which give rise to situational involvement) to similar economic concerns. They give examples of how situational involvement might be inspired by marketing stimuli (e.g., point of purchase displays) that make salient economic goals of saving money or being a thrifty or shrewd consumer. One could argue that their description was not exhaustive of all aspects of situational involvement, and that perhaps their conceptualization includes other situationally-derived sources of personal relevance, such as the presence of a significant other one wants to impress. However, this is not the case, because their hypotheses are stated with respect to the effects of involvement and knowledge on attention and comprehension of product attribute information. As stated above, they equate involvement with the motivation to perform more effortful processing of product information. It would be difficult to reconcile personal relevance, or importance, derived from social situations with their conceptualization of involvement as the motivation to devote effort to the processing of product attribute information. Lichtenstein, Netemeyer, and Burton (1990) examine the relationships between enduring involvement and value consciousness, and between situational involvement and value consciousness. They use McQuarrie and Munson's (1987) revision of Zaichowsky's (1985) "Personal Involvement Inventory" as a measure of "enduring involvement" for each product category, but they do not report in the paper how situational involvement is measured. In personal correspondence, the first author revealed that their measure of situational involvement was as follows: "Using coupons, getting rebates, and taking advantage of price deals is ...,"

followed by a 11 7-place semantic differential scales anchored by such items as "important - unimportant," "valuable - worthless," and "essential - non-essential." Note the economic overtones of this measure. Further, the measures were not product-specific. Therefore, it seems more likely that the researchers measured an enduring trait similar to "economic concern" more than they did "situational involvement" with products.

Some authors have explicitly included social-symbolic aspects of the product category or purchase situation. Houston and Rothschild (1978) discuss enduring involvement in terms of the strength and number of values to which the product is linked (similar to Krugman's 1967 "bridging experiences"); they discuss situational involvement in terms of both product attributes (cost, complexity) and the social visibility of its use. Bloch and Richins (1983) note the separate contribution that symbolic meaning makes to both enduring and instrumental importance (antecedents to enduring and situational involvement, respectively). However, their concern was with the temporal distinction between the importance (and involvement) types, and its implications for process-related variables. They do not explicitly consider information processing implications of symbolic meaning (or "affective involvement" – see below) in the context of between-brand judgments.

Some information processing research has distinguished different types of processing (cognitive, affective) based on an interaction between salient needs (utilitarian, expressive) and involvement, leading to different information used and a different process of attitude formation from advertising (Mittal 1982; Park and Young 1983, 1986; Park and Mittal 1985). Summarizing their position after an extensive review, Park and Mittal (1985) conclude that the relationships between involvement and outcome variables, such as information search and the number of choice criteria used, must be carefully reconsidered. There is evidence that information in advertising (e.g., peripheral and central cues) may be used differently, depending on the motive that is salient at the time of message exposure (Shavitt, et al 1994). A review of consumers' experiential cognitive processes by Hirschman (1985) describes processing modes that differ widely in the types of information used, depending upon whether the consumption experience is mainly a rational (utilitarian) or experiential (sensory, symbolic) one. MacInnis and Price (1987) provide a review of imagery-based information processing, and conclude that in

some research there has been "an implicit confound" between processing mode (imagery vs. discursive) and processing level (high vs. low elaboration) -- i.e., the level characterized by high vs. low involvement. In simple terms, imagery processing uses sensory representations of ideas, feelings, and memories, whereas discursive processing uses words and numbers to represent and solve problems (MacInnis and Price 1987). The literature reviewed in this chapter raises several research questions, to which I now turn.

Research Questions

This dissertation explores how the paying of price premiums is affected by information processing conditions consumers face in brand choice. Several specific research questions related to this issue are explored:

1. How is a consumer's motivation to process brand information affected by changes in involvement, processing motives, and economic considerations? How is information processing of brand judgments affected by changes in these factors?

2. How are outcomes in terms of price premiums affected when consumers are differentially motivated to process information? Do consumers make better value choices (i.e., those in which they pay lower price premiums) when they undertake more effortful information processing?

The chapter that follows provides a conceptual framework that can be used to explore these questions. Additionally, the discussion provides a rationale for several research hypotheses that are developed; these allow the above research questions to be subjected to empirical demonstration using procedures outlined in Chapter IV.

Summary. In order for consumers to process brand information using a more effortful processing mode, they must have requisite levels of ability, motivation, and opportunity. The ability and opportunity factors are relatively well explicated. Motivation factors are not as clear. In consumer research, motivation to process information has been conceptualized and operationalized most often as involvement, or "personal relevance" (Celsi and Olson 1988). Past consumer research has suggested that high involvement (as motivation to process product

attribute information) should reduce the impact of extrinsic cues in product evaluations (e.g., Dawar and Parker 1994; Mitra 1995), but this is an overly narrow view of the involvement construct. An expanded view of involvement would suggest that information cues may be used differentially, depending not only on involvement, but on a motive/involvement interaction (e.g., Park and Young 1986; Shavitt, et al. 1987) as well as economic considerations (e.g., Stigler 1961; Celsi and Olson 1988; Kamakura, Ratchford, and Agrawal 1988). Research that examines consumers' value maximizing behaviors and orientations (e.g., value consciousness), suggests that involvement is different from, but related to, a motivation to use a more effortful mode of processing brand information. The chapter concluded by posing several research questions that were raised by the literature review.

CHAPTER III
CONCEPTUAL DEVELOPMENT

Chapter Overview

This chapter seeks to develop a theoretical model, depicted in Figure 1, to explain why consumers pay price premiums in brand choice (see Figure 1, Appendix 1). The chapter begins with a brief overview of the model. Next is a discussion of the model's conceptual underpinnings. Following is a more detailed discussion of the model's components. The chapter closes with a summary of the discussions presented.

Overview of the Model. In the model presented here (see Figure 1, Appendix 1), paying price premiums is partly influenced by the amount of information processing performed in brand choice. Deeper processing, that is more extensive information processing, leads to a more accurate perception of quality, thus reducing the quality bias component of a price premium for a brand name (e.g., Park and Srinivasan 1994). As in the dual-process models, three main antecedents must all be present in sufficient levels for deep processing to be performed: ability, opportunity, and motivation. Ability is an individual factor that enables a person to successfully perform the task of accurately judging quality (e.g., having high expertise). Opportunity is a situation factor related to information conditions, such as the availability of objective information on quality (e.g., the product is dominated by search attributes). The motivation to scrutinize product attribute information is more complex. In this model, there are three main antecedents to the motivation to process information. These are the interaction between motives (utilitarian, expressive) and involvement, economic concern, and cognitive information processing tendencies. I now discuss the basis upon which this model is conceived.

Conceptual Underpinnings. The model's conceptual underpinnings are rooted in the two popular dual-process models of persuasion, the Elaboration Likelihood Model (ELM) and the Heuristic-Systematic Model (HSM). Value motivation in this model can be compared to the ELM's "primary postulate" and the HSM's "accuracy motivation." In these models of persuasion (attitude formation and change), the message recipient's predominant posture is assumed to be

one of validity seeking. The primary postulate of the ELM is (borrowing from Festinger 1950), "People are motivated to hold correct attitudes" (Petty and Cacioppo 1986, p. 127). And in the expanded version of the HSM the accuracy motivation, assumed to be primary, is described as "*the desire to form or to hold valid, accurate attitudes* -- that is, to attain attitudes that are perceived to be congruent with relevant facts" (Chaiken, Liberman, and Eagly 1989, p. 214, original emphasis). The authors explain that "relevant facts" may be based, for example, on expert opinions. In the context of consumption and brand choice, the accuracy motivation (HSM) and the validity-seeking assumption (ELM) are similar to the economic assumptions of rationality and value-maximization. Unlike the constraining economics assumption, however, these information processing models allow consumers to be guided by different motives (i.e., non-utilitarian ones) and to be influenced by information processing concerns, such as the desire to minimize cognitive effort expenditure.

In brand choice, the brand is an information cue, with a role in brand judgments as an inference to, or signal of, quality, according to the cue utilization and economics of information perspectives. The brand choice context implicates consumer perceptions of quality and value (Dodds and Monroe 1988), where price paid in the exchange may be considered economic sacrifice, one of its "negative roles" in the judgment process (Lichtenstein, Netemeyer, and Burton 1990). Thus, the difference one pays for a branded good versus an unbranded one -- which reflects the price premium aspect of brand equity -- may be affected by the extent to which the consumer desires judgmental accuracy of objective value and the accuracy of the actual quality judgment itself. Each component of the model is described in more detail below, beginning with brand information processing.

Brand Information Processing

Brand information processing refers to the amount and quality of information processing that occurs in the context of brand choice (e.g., at point of purchase) in order to arrive at an evaluation or judgment of the brand's quality. Brand information processing may be thought of as a continuum that varies in terms of the time, effort, and skill needed to make a valid judgment. Shallow or low level processing involves minimal time or effort, while deeper or higher level

processing involves more time and effort. Depending upon the levels of motivation, ability, and opportunity. All three antecedent factors are necessary to perform higher level brand information processing (see Figure 1). The levels of these three antecedents are instrumental in determining the level of brand information processing in an evaluation setting. Deep brand information processing is characterized by a devotion of higher effort to the task: more time spent examining information, more information used, increased use of brand-based processing (as opposed to attribute-based processing) and decreased use of simplifying heuristics to infer quality. Shallow brand information processing is characterized by lower levels of brand-based processing (as opposed to attribute-based processing) and increased use of heuristic cues, such as brand names or price to infer quality.

It is important to note that heuristics may be used equally by novices or experts but with different accuracy (Park and Lessig 1981; see also Alba and Hutchinson 1987). Thus, in terms of the effects on price premiums, in this model higher level processing includes experts who use information heuristically to save time and effort while still achieving valid judgments (e.g., those that "square with relevant facts," cf. Eagly and Chaiken 1993), which presumably are more accurate as a result of some prior analyses (e.g., through product experience or reading *Consumer Reports*). When a heuristic is used by a novice, it is considered lower level in its effect on a price premium because judgmental validity would be a direct function of the objective covariation between the extrinsic or peripheral cue and the level of objective quality of the product (which experts, almost by definition, should be more likely to know). Again, both experts and novices may use heuristics to reach a judgment, but experts are more likely to make accurate judgments, e.g., judging a product's quality from price (Alba and Hutchinson 1987; Park and Lessig 1981). To the extent that an accurate assessment of quality is desired and made, consumers are less likely to pay a price premium (e.g., Rao and Sieben 1992). The accuracy of brand quality judgments is reflected in the quality bias component of the price premium, or the difference between subjectively perceived and objectively measured quality (Park and Srinivasan 1994).

In the following sections, the three antecedents to brand information processing are discussed in detail. The ability and opportunity factors and their roles as mediators of processing

level are relatively well established in the literature, so their presentation will be brief; motivation's role is of primary interest here and is discussed in more detail. Past research has called for exploration of this motivation (Hoyer and Brown 1990)[12].

Ability

As in past information processing research, the focus is on cognitive structures and cognitive capacities that enable the person to successfully perform tasks. Here the task is a judgment of a product's quality using intrinsic product attributes as opposed to extrinsic cues. Therefore, ability is conceived as an individual difference factor. Ability to analytically scrutinize information may be a function of the person's expertise or relevant product category knowledge (Alba and Hutchinson 1987; Maheswaran 1994) as well as cognitive capabilities (e.g., Capon and Kuhn 1990). Consumers who lack appropriate knowledge (i.e., novices), may be forced to rely on simple cues (e.g., heuristics, signals, extrinsic cues) because of their "inferior ability to comprehend and evaluate product-related facts" (Alba and Hutchinson 1987, p. 419.

However, this may be an overly simplistic view of the knowledge construct. As Petty, Wegener, and Fabrigar (1997) note, knowledge should be capable of serving multiple roles in information processing, affecting both ability and motivation. One reason may be that here is a difference between what individuals *think they know* and what they *actually know* about a product. The former has been labelled "subjective knowledge" (Brucks 1985) or "self-assessed knowledge" (Park, Mothersbaugh, and Feick 1994), while the latter has been labelled "objective" knowledge (Brucks 1985). Subjective knowledge may not accurately reflect objective knowledge, and further, may have different implications for information search, processing and brand evaluations (Brucks 1985; Park et al. 1994; Raju, Lonial, and Mangold 1995). Research suggests that, regardless of objective knowledge, lower subjective knowledge is associated with a higher need for new information (see Park et al. 1994; Petty et al. 1997; Raju, et al. 1995). Thus, while objective knowledge may constrain a person's *ability* to process information (cf. Alba and

[12] These authors call for research that specifically explores the motivation to use harder-to-process information (intrinsic attributes) versus easier-to-process information (brand name) in order to understand the conditions under which brand awareness exerts an impact on choice.

Hutchinson 1987), subjective knowledge may affect a person's *motivation* to seek out and use new product attribute information (cf. Brucks 1985; Park et al. 1994). Conceptually, however, it is the person's objective knowledge or expertise that constrains his or her ability to process information and make an accurate assessment of product quality, in line with Alba and Hutchinson (1987) and the research reported in Chapter II. The motivational role of subjective knowledge as it pertains to the proposed empirical study is addressed in the next chapter.

Opportunity

The opportunity to scrutinize intrinsic attribute information – and make a more accurate assessment of quality and value – depends on whether the information is available and diagnostic, and whether the person has sufficient time to use this information. Thus, opportunity is a function of the product and/or the situation. Opportunity to process information distinguishes between search and experience goods (Nelson 1970) and credence goods (Darby and Karni 1973). The complexity, or difficulty in terms of number of attributes required to make a valid judgment affects the opportunity to process information, as does time pressure (e.g., Schellink 1983). Both ability and opportunity to process information implicate the costs of information processing. Providing low-cost objective ratings information, such as found in point of purchase displays in some retailers (e.g., Wal-Mart's shelf tags for VCRs) would enhance consumers' opportunity to process information. However, other factors, such as those related to ability and motivation, may determine how this information gets used.

Motivation

As discussed in Chapter II, the motivation to engage in more effortful information processing and use more objective intrinsic attribute information has been viewed primarily in terms of the involvement construct. However, research has provided contradictory findings about the role of involvement in price premiums. On the one hand, research shows high involvement to be related to the use of more probative information, such as intrinsic attributes, diagnostic or unambiguous product information, and objective ratings; it correlates with higher levels of more effortful information processing (e.g., systematic versus heuristic, central route versus peripheral route, by-brand versus by-attribute, bookkeeping versus category-based); and it

is positively correlated with product knowledge. Further, involvement has been positively associated with value consciousness (Lichtenstein, Netemeyer, and Burton 1990). The nomological net constructed thusly strongly suggests that high involvement should *lower* consumers' willingness to pay a price premium. However, other research has reported that high involvement decreases price consciousness (Lichtenstein, Bloch, and Black 1988) and increases the tendency of consumers to pay price premiums (Bei and Heslin 1996). Given these paradoxical findings, it seems necessary to distinguish involvement from the motivation to systematically process attribute information.

Motivation is conceived here, as in past research (e.g., MacInnis and Jaworski 1989) as the cognitive effort devoted to processing information. While information includes both internal information (e.g., memory of attributes, evaluations) and external information (e.g., intrinsic and extrinsic attributes), it is noteworthy that external intrinsic attribute information requires more effort to process (e.g, Purwar 1982). Thus, a higher level of motivation is required to process intrinsic attribute information. The effort expended in the brand evaluation process depends on the level of judgmental confidence required, similar to the treatment of search effort in economics (e.g., Stigler 1961) and cognitive effort in social psychology (e.g., Chaiken et al. 1989; Eagly and Chaiken 1993). Stigler proposed that search effort continues as long as the marginal benefits of search exceed marginal costs. Chaiken and colleagues proposed that people require different levels of confidence in their judgments, but will generally tend toward minimizing the cognitive effort expended in reaching a judgment. Thus, people must strike a balance between minimizing effort and arriving at a sufficient level of judgmental confidence. Therefore, cognitive effort expenditure is governed by the "least effort" and "sufficiency" principles (Chaiken et al. 1989; Eagly and Chaiken 1993; Chen, Duckworth, and Chaiken 1999). This is also similar to the view of reaching more valid judgments by using more costly (i.e., less accessible or lower confidence value) information implicitly considered in cue utilization, where cues have confidence value and predictive value, and in the accessibility/diagnosticity framework, where higher motivation is needed to use more diagnostic but less accessible information. The difference is that, here, we are examining the influence of different antecedents

to this motivation, rather than assuming, explicitly or implicitly, that consumers are rational users of information. This rationality assumption allows the involvement construct to operate in the manner suggested by information processing frameworks, namely as a mediator of the processing level (e.g., systematic or heuristic).

However, as discussed previously, the involvement level interacts with different motives to produce very different information processing implications; it is *not* the same as the motivation to use more-difficult-to-process intrinsic attribute information. Further, in real consumption situations, consumers may be highly involved with a product or purchase situation (in terms of interest, risk, amount at stake, etc ...), yet may opt to simplify the purchase decision by relying on readily available extrinsic cues. Subsequently, because higher motivation is needed to process intrinsic attributes or more objective information (such as *Consumer Reports*), the level of motivation should influence the accuracy of quality and value judgments involved in brand choice, and thus effect also the price premium consumers pay.

Motivation to engage in a higher levels of brand attribute information processing is seen here as arising predominantly out of three sources: (1) the interaction between involvement and the particular motive that is salient at the time and governing brand evaluation; (2) economic concerns; and (3) individual differences in cognitive information processing motivation. Each of these model constructs is explained in turn.

Brand Evaluation Motives[13]. Two motives, utilitarian and expressive, are ubiquitous in consumer behavior, especially where information processing is concerned. Utilitarian motives orient the person toward the functional or problem-solving benefits of a product or brand; expressive motives orient the person toward the social-symbolic or self-image benefits of a product or brand (cf. MacInnis and Jaworski 1991; Park and Young 1986). MacInnis and Jaworski (1991) argue that the influence of different motives on information processing is an under-researched area. These motives are related to the needs underlying product consumption, which may themselves be a function of the individual (e.g., personality traits like self-

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[13] Some treatments have used the terms "needs" (e.g., MacInnis and Jaworski 1991) and "goals" (e.g., Shavitt, et al. 1994) in place of motives or interchangeably.

monitoring, Snyder and Debono 1984), the situation (e.g., public or private consumption, Miniard and Cohen 1983), or the product (e.g., Shavitt 1990). While it is conceivable that both motives simultaneously may be salient, most theoretical expositions and empirical demonstrations have focused on cases where one or the other is salient. Thus, the level of involvement and the motives that direct it must be examined separately in order to understand more completely the determinants of consumer's motivation to process intrinsic attribute information.

Involvement/Motive Interaction. A fundamental determinant of motivation is the construct involvement, which has received much research attention in the persuasion literature (e.g., Chaiken, Liberman, and Eagly 1989; Petty and Cacioppo 1986) and in consumer behavior (e.g., Celsi and Olson 1988; Greenwald and Leavitt 1984; Laurent and Kapferer 1985; Zaichowsky 1985). Involvement has been conceived as "arousal capacity" (Park and Young 1986) and an "arousal state" (Mitchell 1979), the level of which depends on the amount at stake, importance, or level of risk (cf. Bloch and Richins 1983). This arousal is directed by some goal, or motive, to achieve some information processing aim.

Reviewing literature on the role of imagery in information processing, MacInnis and Price (1987) point out the implicit confound in some research between the level or mode of information processing (e.g., high versus low elaboration) and the type of processing (e.g., imagery versus discursive). High involvement combined with an expressive motive can create processing that is qualitatively different from the type found in high involvement combined with a utilitarian motive (e.g., Park and Mittal 1985; Park and Young 1986). High utilitarian involvement motivates more effortful analytical, discursive reasoning, whereas high expressive involvement seems to promote less effortful and holistic imagery processing and encourages focus on a single brand (Park and Mittal 1985; MacInnis and Price 1987). Note that the focus on a single brand does not imply the type of “by brand, across attribute” processing (e.g., Bettman, Johnson, and Payne 1990) which is more effortful and analytical. Rather, this type of processing tends to reduce the tendency to examine brand attribute information and limit cognitive resources available for attribute processing. In fact, MacInnis and Price 1987 proposed that consumers will

evaluate fewer brands when processing via a mode that involves imagery.

Therefore, it is necessary to look beyond involvement to explain the motivation to engage in more effortful processing of brand attribute information. When consumers have salient a utilitarian motive in a brand judgment situation, arousal is channeled to a focus on information that reveals the problem-solving or functional benefits of the brand. However, this need not imply that a consumer will devote more cognitive effort to the processing of information to achieve better value in choice. On the contrary, although the highly involved consumer may focus more on the "get" component of a product (see Lichtenstein, Bloch, and Black 1990), they also may opt to simplify the decision by making an inference based on a readily available extrinsic cue. This is so because people are “cognitive misers” (Fiske and Taylor 1984, p. 12), and all things equal, should opt for the least effortful decision (see, e.g., Eagly and Chaiken 1993, p.330). That is, they may attempt to minimize cognitive effort expenditure rather than making an "optimal choice" (cf. Hoyer 1984). Using a simplifying heuristic to guide evaluation and choice is often costly to consumers, because these heuristics may lead to biases and inaccuracies (Garbarino and Edell 1997; Hoyer and Brown 1990). Thus, because consumers are in essence trading off cognitive effort reduction for value maximization (Mandrik 1995), economic concerns are implicated as antecedent to information processing motivation.

Consumers may use intrinsic attribute information when involvement is high and this information is available at extremely low cost -- not the norm in real markets, but the way many experimental choice tasks are designed. When this information is more costly, they must have a higher motivation to overcome the tendency toward cognitive economy. The economics of information framework explains the level of search -- analogous to the processing of external information -- as influenced by the costs of searching for this information. High involvement directed by a utilitarian motive should motivate more effortful processing, while high involvement directed by an expressive motive should motivate less effortful processing of intrinsic product attribute information.

Economic Concern. Missing from persuasion studies is the role of economic concern. Economic concern is defined here as the importance of saving money when making purchase

decisions. As a general trait it may be influenced by the person's financial condition, i.e., how "well off" the person is economically. Economic concern may be made salient by such things as point-of-purchase sale signs (cf. Celsi and Olson 1988)[14], or as pointed up by economics-based research (e.g., Stigler 1961; Kamakura, Ratchford, and Agrawal 1988), by the amount of money spent on a product. Although higher-expenditure product categories are assumed to make more salient the expected savings associated with extended search, it should be noted that some higher-priced product categories arouse expressive motives in evaluation, for example womens' dresses (e.g., Laurent and Kapferer 1985).

Faced with brand choice in real settings, decision makers with higher economic concern (thrift) should have higher motivation to expend cognitive effort. The implications for processing are higher usage of objective quality information and a reduced willingness to pay a price premium for a given level of quality. To the extent that consumers who are value conscious are more likely to choose a brand based on quality-for-price considerations, and to the extent that deeper processing leads to more accurate judgments of product quality, price premiums should be reduced. Partial support for this contention is provided by the finding that consumers switch to private label brands when the economy takes a downturn (Hoch and Banerji 1993). Further, Tellis and Gaeth (1990) found that consumers were most likely to make best-value choices when they were highly motivated to use product information that discriminated alternatives based on their associated repair costs. Hoyer (1984) found that consumers who used price-related choice tactics (e.g., "buy the lowest priced brand") were more likely to engage in more effortful search, to examine shelf tags, and to pay more attention to sale signs.

Thus, it appears that economic concern influences the type of information used in brand evaluation. When price is involved in product judgments -- as is the case in most real-world scenarios, value perceptions are involved to varying degrees, according to accepted models of brand evaluation and choice (e.g., Dodds, Monroe, and Agrawal 1992). When consumers make judgments between two brands of products that are objectively identical, their willingness to pay

[14] As discussed previously, these authors denote this "situational involvement."

a price premium may depend on how motivated and able they are to make an accurate assessment of objective value. In studies of advertising effects on attitude formation and change (i.e., persuasion), perceivers' tendency toward cognitive economy forms the basis for distinguishing between the two routes. People naturally tend, to varying degrees, toward minimizing their effort expenditure in reaching attitudinal positions or judgments. Thus, they must be more motivated to process more difficult to use information, like intrinsic attributes.

However, the use of this information in attitude formation and expression in the brand choice context may depend on, in addition to cognitive economy, economic concerns. Persuasion that results from advertising may not be as relevant when consumers actually make a choice between brands that differ in price, if they are motivated to search for more probative information (e.g., intrinsic attributes).

Need for Cognition

Finally, motivation to process brand information should be affected by individual differences in cognitive processing motivation. For example, a factor that may be of major importance is need for cognition (Cacioppo and Petty 1977; see also Petty, et al. 1998). This construct describes a person’s tendency to enjoy engaging in effortful thinking. Because people are cognitive misers, generally preferring to expend less rather than more energy in thinking, and because using brand information in an evaluative task involves cognitive effort, need for cognition should affect the motivation to process information. Higher need for cognition should motivate deeper processing.

How different sources of motivation influence the judgment process, which may ultimately influence the paying of price premiums, has not been tested. The next section develops the research hypotheses.

Research Hypotheses

Several hypotheses follow from the above discussion. These relate the antecedent factors to the type of processing and information used in making a brand choice, and the outcomes, in terms of the price premium resulting from choice. As noted above, deep processing of brand information depends on requisite levels of the three main antecedent factors, ability, opportunity,

and motivation; the absence of any one should be sufficient to cause consumers to use shallow processing modes.

As discussed previously, the motivation to deeply process brand attribute information is likely to be affected by several sources. Based on past research (e.g., Park and Young 1986; Shavitt, et al. 1994), an interaction is proposed to exist between involvement and the brand evaluation motives. When involvement is directed by a utilitarian motive, a high level of involvement should increase the person's motivation to systematically process intrinsic attribute information. That is, a high level of personal relevance or arousal felt in a brand choice situation, when it is directed toward the functional or problem-solving benefits of the brand, should focus consumers' cognitive effort on deeply processing product attribute information. However, when a high level of personal relevance or arousal is felt, but it is directed by an expressive motive, it is less likely that consumers will be motivated to devote cognitive effort to processing product attribute information. More specifically, subjects should spend less time examining product attribute information, evidence of lower effort being exerted in brand evaluation (e.g., Bettman, Johnson, and Payne 1990). Furthermore, because it is less effortful in a brand evaluation task to process information by attribute/across brands than by brand/across attributes (Russo and Dosher 1983) high expressive involvement subjects should process by attribute rather than by brand (e.g., Payne, Bettman, and Johnson 1988). This is the rationale for proposing an interaction between involvement and motive on brand information processing and leads to the following hypotheses:

> Hypothesis 1a: Involvement is positively related to time spent processing information when a utilitarian motive is salient, but not related or negatively related when an expressive motive is salient.
>
> Hypothesis 1b: High involvement will promote more brand-based processing when a utilitarian motive is salient, but more attribute-based processing when an expressive motive is salient.

Extrinsic cues or signals, such as a well-known brand name or a higher price, are often used as cognitive shortcuts or inferences to the brand's (perceived) higher quality. These inferences may or may not be reliable, leading some consumers to choose brands that do not provide

maximal objective value, that is, to pay a price premium. Thus, there is an apparent tradeoff between cognitive effort minimization and objective value maximization (Mandrik 1994). This tradeoff suggests that consumers who place higher importance on economic savings will devote more effort to processing intrinsic attribute information and processing by brand rather than by attribute. Thus, the following hypotheses:

> Hypothesis 2a: Economic concern is positively related to the amount of time spent processing brand information.
>
> Hypothesis 2b: Economic concern is positively related to brand-based processing.

A final hypothesis regarding motivation to process brand information concerns cognitive processing motivation individual differences. Need for cognition (Cacioppo and Petty 1982; see also Cacioppo, et al. 1996) has been shown to influence consumer information processing in a variety of contexts, such as the effect of advertising on brand attitudes (e.g., Petty, Cacioppo, and Schumann 1983) and effect of consumers' reactions to in-store promotion signals (e.g., Inman, McAlister, and Hoyer 1990). The effects on brand information processing in the context of a brand evaluation task have not been empirically demonstrated, but it is likely that need for cognition should have an effect in the following way:

> H3a: Need for cognition is positively related to the amount of time spent processing brand information.
>
> H3b: Need for cognition is positively related to brand-based processing.

When consumers are motivated and capable of undertaking more effortful deep processing of brand information, they should be able to make more accurate assessments of a brand's quality (e.g., Johnson and Payne 1985; Payne, Bettman, and Johnson 1988). Better accuracy should enable consumers to reduce the quality bias – the difference between perceived and objective quality that contributes to the price premium of a branded good (Park and Srinivasan 1994). It is likely that the more accurately consumers determine quality the more likely they should be to choose the better value brand, thus reducing between brand price premiums. This leads to the following hypothesis:

H4a: More time spent processing brand attribute information increases the willingness to buy the best value brand in a choice set.

H4b: More brand-based processing increases the willingness to buy the best value brand in a choice set.

Chapter Summary. This chapter presented a conceptual model, based on the dual-process models of persuasion, conceived to explain price premium variations as an outcome of consumer's information processing in brand evaluation. Ability, opportunity, and motivation to process more difficult to use yet more valid information were described as information processing constraints. In particular, the antecedents of the motivation factor were detailed, highlighting the interaction of involvement level and brand evaluation motives as influential in determining the motivation to engage in more effortful information processing when engaged in brand evaluation. Economic concern and need for cognition also were shown to be antecedent to this motivation. Formal hypotheses were stated relating each of these factors to information processing outcomes. A final hypothesis linked information processing to the willingness to buy the best value brand in a choice set, an outcome that is logically associated with the existence of price premiums. The next chapter discusses the methodology used to test these hypotheses.

CHAPTER IV
METHODOLOGY

Chapter Overview

The goal of this dissertation is to explore the causes underlying price premiums from an information processing perspective, highlighting the role that motivation plays in this process. Specifically, it examines the effects on information processing and price premium outcomes of the interaction between involvement and brand information processing motives, economic concern, and need for cognition. These factors, in combination, influence the level of motivation to process attribute information. The relationships between these constructs were specified in the preceding chapter and stated as formal hypotheses. This chapter presents an experiment designed to test these hypotheses. First, the rationale for using the chosen method is provided and the key contributions of the approach are discussed. Then a brief overview of the method is presented, followed by a detailed exposition of the method, including operationalizations of constructs. The chapter closes with a summary.

Justification for Testing Paradigm. This research examines, using an information processing framework, factors that influence consumers to pay price premiums in brand choice. The theoretical framework used is derived from the dual-process persuasion models from social psychology (see discussion in Conceptual Development, Chapter III). Although it is more common for researchers to apply these models to advertising contexts, both the Elaboration Likelihood Model (ELM) and the Heuristic Systematic Model (HSM) have been used to study the use of information cues in a brand choice context. The ELM was used to frame a study of promotion signal use in product evaluations (Inman, McAlister, and Hoyer 1990), noting the model's usefulness for further studying situations where simple inferences based on extrinsic cues, as opposed to product attributes, influence consumer behavior. The HSM was combined with a cue utilization approach to study price cue use in product evaluations (Mitra 1995). Zaichowsky (1987) used a similar testing paradigm but relied on a nominally different theoretical framework to study the effect of involvement on price cue versus intrinsic attribute use in product evaluations.

Key Contributions. There are several contributions of the approach used here, which combines a cue utilization testing paradigm with procedures typically used in persuasion studies (e.g., manipulations of involvement and motives). First, unlike most cue utilization studies (cf. Mitra 1995), it allows unobtrusive examination of the information processing preceding brand judgments. Second, unlike cue utilization and other information processing research that has assumed involvement (as personal relevance) to be guided by utilitarian motives, this research explicitly examines multiple motives. Thus, it may suggest possible boundary conditions, such as identifying the types of products or situations which may yield unintended effects on information processing. Finally, this study examines the impact of information processing factors on price premiums, or the objective value consumers obtain in choice, by applying the brand equity method of objectively equivalent brands and willingness-to-buy measures.

Overview of Research Methodology

This dissertation uses a computer-based method known as Mouselab (Johnson, Payne, Schkade, and Bettman 1986). Mouselab, which has become somewhat of a standard information processing testing paradigm, generates an information display matrix and unobtrusively measures the process of information acquisition.

In this study, the basic approach was to provide subjects with the opportunity to investigate Mouselab-generated information display matrices that contained information on several products. Extrinsic cues like brand name and price were present and visible, while intrinsic cues ("Consumer Reports" ratings of quality attributes) were hidden behind opaque boxes, visible only as long as the subject clicked on them with his or her mouse. Subjects spent as much time and examined as many bits of information as they desired in each matrix, then were asked to make judgments regarding their likelihood of purchasing each product at the price shown. The time spent examining information for each product, the style of information processing (by brand/across attributes or by attribute/across brands), and purchase likelihood measures constituted the main dependent variables in the study.

The manipulated independent variables were involvement (higher, lower) and processing motive (utilitarian, expressive), crossed in a 2 x 2 factorial design. Involvement was manipulated in the manner typical of many information processing studies (e.g., Petty, Cacioppo, and

Schumann 1983; Maheswaran and Sternthal 1990; Mitra 1995), with instructions that either increased or decreased the personal relevance of the processing task. Processing motive was manipulated using an approach based on past work by Shavitt and her colleagues (Shavitt and Fazio 1990; Shavitt, et al. 1994), by having subjects fill out a rating task that either makes salient impression-relevant or functional thoughts. A further within-subjects operationalization of each of these facets is achieved through the products used in the study, which were chosen on the basis of pretests (explained below) to be either more or less involving to subjects and predominantly arousing expressive or utilitarian motives in brand judgment. Economic concern was measured using a scale adapted from Lichtenstein, Netemyer, and Burton (1990). Several variables were examined as covariates, including need for cognition, value consciousness, price-quality schema, product knowledge and brand familiarity.

Procedures

The Mouselab computer-based method was used to collect processing data and paper-and-pencil questionnaires for the trait measures. Subjects were scheduled in groups of up to six to meet in a common room adjacent to individual rooms that housed computers. The procedures were explained to them in the common room, and afterward subjects adjourned to individual rooms at and were randomly assigned to experimental conditions to complete the Mouselab task. The computer instructed subjects how to use Mouselab and when to fill out the paper-and-pencil questionnaires that were placed next to the computer. The final four items of the computerized portion were manipulation checks for the involvement and motive between-subjects manipulations. When finished with these tasks, subjects were told to meet back in the common room to complete an exit questionnaire that contained the knowledge and familiarity scales. After completing these measures subjects were debriefed as to the nature of the experiment and dismissed.

Sample. The sample consisted of students for reasons of convenience and to reduce within-sample heterogeneity which could decrease the strength of tests (Calder, Phillips, and Tybout 1982). Given the study's focus on behavior that is general to most consumers, including students, and the inclusion of products that pre-tests revealed are relevant to this population, there is no *a*

priori reason to suggest that using students is inappropriate[15]. Approximately 35 subjects per cell was desired, in line with past research in cue utilization (e.g., Dodds, Monroe, and Grewal 1991; Mitra 1995; Richardson, Dick, and Jain 1994; Schellink 1983) and persuasion (e.g., Shavitt, et al. 1994; Chen, Shechter, and Chaiken 1996).[16] First the pre-tests that generated the products used in the main study are described and then a detailed explanation of the main study methodology follows.

Pre-tests

Two separate pre-tests were conducted in order to select product categories to be included in the main study. The goal of these pre-tests was to select products that were perceived by subjects as high or low involvement in nature, and that were evaluated based on either utilitarian or expressive motives. A list of 20 products was generated (see Table x) for use in a questionnaire to be administered to student subjects in a classroom setting. The 20 products were chosen based on past work examining products described in terms of involvement and/or motives (e.g., Lastovicka and Gardner 1978; Bloch and Richins 1983; Laurent and Kapferer 1985; Shavitt 1990; Bei and Heslin 1996), and included an assortment of electronic goods, low priced supermarket items, clothing and medicines.

In the first pre-test (n = 25), subjects were given a simple definition of the concept product involvement. After confirming understanding of the concept, subjects rated the 20 products on a seven-point Likert scale, anchored from 1 = "highly involving product" to 7 = "not at all involving product." The results are summarized in Table x.

In the second pre-test (n = 65), subjects were given simple descriptions of utilitarian motives and expressive motives in brand evaluation and shown examples of how to perform the rating task. After confirming understanding of the two concepts, subjects rated the 20 products

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[15] It is also a theory test in which no design factor interacts with any characteristics of the student sample in a foreseeable manner. See Calder, Phillips, and Tybout (1981, 1982, 1983), Lynch (1982, 1983), and McGrath and Brinberg (1983) for an interesting dialogue on the appropriateness of using student samples in theory tests.

[16] The cell sizes for these studies varies appreciably (from 12 to 52), as does the types of designs, phenomena, and effect size estimates examined.

on these two dimensions by assigning from 1 (lowest) to 10 (highest) points for each dimension of brand evaluation. For example, a mostly utilitarian product (such as tissues) would receive a high rating on the utilitarian dimension, but a low rating on the expressive dimension. Additionally, subjects indicated whether or not they had ever purchased the product in question. Results are summarized in Table 1.

For use in the main study, products were chosen that scored highest on each motive without cross loading, and that scored either the lowest or the highest on involvement. In other words, the highest-involvement most-utilitarian products, the lowest-involvement most-utilitarian products, the highest-involvement most-expressive products, and the lowest-involvement most-expressive products were chosen. A final criterion was that the products were bought at least once by a majority of the subjects. The products chosen for use here are italicized in Table 1; their rating means for each dimension of interest are significantly different in the appropriate direction from the grand means for all products, with one exception. The involvement rating mean for shampoo is 3.59, not significantly different from the involvement rating grand mean, $GM_{inv} = 3.19$, $t(48) = .92$, n.s., although in the direction suggesting lower involvement. Previous work (e.g., Park and Young 1986) suggests it is difficult to find truly low-involvement products that also strongly arouse the expressive motive; such was the case for shampoo. However, it was deemed satisfactory because in the context of the products used in the study, it represented the lower end of involvement (see below).

Importantly, the products chosen for use are significantly different from each other on each dimension of interest. For example, the mean involvement rating for VCR, $M_{inv} = 1.93$ is significantly different than that for tissues, $M_{inv} = 4.39$, $t(128) = 5.65$, $p < .001$; however, both were rated high on the utilitarian dimension and low on the expressive dimension. The utilitarian and expressive ratings for VCR, $M_{util} = 7.36$ and $M_{exp} = .40$ are significantly different from the utilitarian and expressive ratings for basketball shoes, $M_{util} = 3.23$ and $M_{exp} = 4.64$, $t(128) = 9.47$, $p < .001$ and $t(128) = 12.55$, $p < .001$, respectively; however, both were considered high involvement. Similar significant differences are observed between each product on each rated dimension. Addressing the previous concern regarding the involvement level of shampoo, it is significantly lower in comparison to the higher-involvement products used here (VCR, basketball

shoes, cough syrup) at $p < .001$. The main study is discussed next.

Table 1: Product Involvement and Evaluation Motive Pre-test Results

Product	Mean Involvement Rating, n=25	Mean Motive Rating (n=65) Utilitarian	Expressive	Purchase Incidence (%)
1. oats	4.88 (1.63)	5.86 (4.28)	.09 (.29)	48
2. cough syrup	*2.13 (1.41)* [b]	*8.95 (1.36)* [b]	*.00 (0.0)* [b]	*100*
3. tissues	*4.39 (1.74)* [b]	*8.18 (2.17)* [b]	*.00 (0.0)* [b]	*100*
4. dishwashing detergent	3.75 (1.60)	9.59 (0.73)	.05 (.21)	96
5. basketball shoes	*1.61 (1.18)* [b]	*3.23 (2.14)* [b]	*4.64 (2.44)* [b]	*100*
6. stereo speakers	1.93 (1.38)	5.27 (2.93)	2.38 (2.65)	52
7. VCR	*1.93 (1.31)* [b]	*7.36 (2.79)* [b]	*.40 (1.18)* [a]	*61*
8. milk	4.42 (1.90)	5.73 (4.13)	.00 (0.0)	96
9. toothpaste	2.86 (1.48)	6.32 (2.95)	.27 (.66)	100
10. camera film	2.71 (1.42)	8.18 (2.52)	.65 (1.37)	100
11. orange juice	3.58 (1.59)	5.00 (3.75)	.18 (0.54)	100
12. microwave	2.41 (1.45)	8.82 (1.87)	.27 (.73)	35
13. peanut butter	4.37 (1.64)	3.36 (3.66)	.18 (.29)	87
14. pain reliever	2.66 (1.56)	9.32 (1.59)	.09 (.24)	100
15. laundry detergent	3.62 (1.72)	8.59 (1.68)	.16 (.47)	100
16. tee shirt	*2.45 (1.57)* [a]	*3.77 (2.07)* [b]	*3.23 (2.14)* [b]	*92*
17. shampoo	*3.59 (1.58)*	*4.14 (1.67)* [b]	*1.82 (2.03)* [b]	*100*
18. coffee	3.80 (1.88)	3.59 (3.50)	.27 (.62)	74
19. breakfast cereal	3.56 (1.75)	3.73 (3.40)	.18 (.52)	96
20. cola	3.03 (1.81)	2.00 (2.85)	1.00 (1.88)	100
Grand Mean:	**3.18 (1.58)**	**6.05 (2.60)**	**.79 (.91)**	**87.05**

Note: Lower involvement values indicate higher involvement level.

[a] = Different from grand mean at p<.05

[b] = Different from grand mean at p < .01

Independent Variables

Involvement. Involvement was manipulated as both a between-subjects and a within-subjects factor. The between-subjects manipulation was taken from past work (e.g., Petty, Cacioppo, and Schumann 1983; Mitra 1995). All subjects were told that they were participating in a study conducted as part of a large, national consumer research project. For the high-involvement manipulation, subjects were instructed that they would be making a series of judgments on products that soon would be available in their market area and, further, that their individual opinions were very important to the results of the study. For the low-involvement manipulation, subjects were instructed that they would be making a series of judgments on products that would be marketed in other parts of the country and, further, that their individual

opinions were not very important because they would be aggregated with data from the entire sample. The involvement manipulation appears in Appendix 1, Exhibit 3.

The within-subjects involvement manipulation consisted of the different types of products used in the study. Past work (e.g., Bloch and Richins 1983; Howard 1974; Lastovicka 1979; Lastovicka and Gardner 1978; Mano and Oliver 1993) and pre-tests revealed that certain product categories are more involving, in the sense that they are considered more important, generate greater levels of interest, or entail greater perceived risk in the event of purchase. Therefore, it was possible to use products that differ in their inherent capacity to generate interest, provoke arousal, or stir cognitive processes – at least among a particular group, as a market segment – as a within-subjects manipulation of the involvement construct. Again, this is in line with a conceptualization of involvement as a general, non-directed level of arousal (e.g., Mitchell 1979; Park and Young 1985), the "amount at stake" (Howard and Sheth 1969), level of product importance (Bloch and Richins 1983), and most simply as "personal relevance" (e.g., Zaichowsky 1985). Based on the pre-tests described above, products were chosen to represent the upper and lower endpoints of involvement; products appear in Exhibit 2 in Appendix 1. Motives are addressed in the next section.

Motives. The motive manipulation is both a between-subjects and within-subjects manipulation. The between-subjects motive manipulation was taken from past work that has used it successfully (Shavitt and Fazio 1990; Shavitt, et al. 1994). For the between-subjects manipulation, ostensibly as part of an unrelated study, subjects completed a rating task (Appendix 1, Exhibit 4a, 4b) designed to make salient either utilitarian or expressive motives. An expressive motive was primed by having subjects rate 20 different situations (e.g., wearing a suit, giving a presentation, driving a foreign sports car) in terms of "how much you think they would make a good impression on others," on a scale from 1, "won't make a good impression at all" to 5, "will make a very good impression." A utilitarian motive was primed by having subjects rate 20 different products (e.g., screwdriver, pencil, computer mouse, etc ...) in terms of "how useful the object is for performing a task other than the one for which it was designed" on a scale from 1, "not at all useful" to 5, "extremely useful."

Different products may trigger different motives in evaluation situations (Shavitt 1990; see

also Park, Jaworski, and MacInnis 1986). Thus, for the within-subjects manipulation, products were included that are typically evaluated primarily on the basis of functional performance (i.e., arouses a utilitarian brand evaluation motive) and those which are evaluated primarily on social-symbolic dimensions (i.e., arouses an expressive brand evaluation motive). The products chosen for use in the study, based on the pre-tests discussed previously, appear in Appendix 1, Exhibit 2.

Past research has demonstrated that certain traits which reflect tendencies toward social influence, such as "self-monitoring" (Snyder 1974) or "attention to social comparison information" (ATSCI, Lennox and Wolfe 1984) may increase the tendency for consumers to have salient an expressive motive in brand evaluation. To my knowledge the implications of this tendency for information processing have not been demonstrated empirically in a brand judgment context. However, a person who is highly susceptible to social influence, such as a high self-monitor (e.g., Brinberg and Plimpton 1986) may suffer a deficit in motivation to process attribute-related information.[17] Classifying subjects on the basis of self-monitoring has been used to operationalize the expressive motive in persuasion research (Chen, Shechter, and Chaiken 1996, Study 1), where it was demonstrated to influence subjects' motivation to process information in a biased manner. Therefore, a similar approach was used, although the ATSCI scale (Lennox and Wolfe 1984), rather than the self-monitoring scale (Snyder 1974) was employed because it measures essentially the same construct with 13 rather than 25 items. Exhibit 5 in Appendix 1 contains the ATSCI scale.

Economic Concern. Economic concern was measured because it seems likely that the construct exerts itself in behavior most like an enduring attitude or trait, similar to a general attitude toward spending (e.g., "thrift," cf. Shapiro 1973). Thus, it may be difficult to manipulate with adequate results. Economic concern is measured using an adapted version of a scale originally used by Lichtenstein, Netermeyer, and Burton (1990) to measure "situational involvement." The scale appears in Exhibit 6 in Appendix 1.

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[17] It is interesting to note that on a conceptual level, this proposition is compatible with the finding that need for cognition is negatively related to attention to social comparison cues (cf., Cacioppo, et al. 1996). See also Hirschman's (1985) discussion related to persuasability (e.g., reduced argument scrutiny) and social conformity characteristics.

Need for Cognition. An individual predisposition affecting motivation to engage in effortful brand information processing is the need for cognition, a person's tendency to enjoy engaging in effortful thinking (Cacioppo and Petty 1977; see also Petty, et al. 1998). This construct was measured using the 18-item need for cognition scale given in Cacioppo and Petty (1982). The scale appears in Exhibit 7 in Appendix 1.

Ability and Opportunity. As discussed in Chapter III, deeper levels of information processing are proposed to depend on the levels of ability, opportunity and motivation to process information in brand evaluations. If any of these factors are constrained, for example if time was limited or the person lacked the expertise to use complex information, the person would be expected to use a simpler processing mode. However, when conditions are such that both ability and opportunity factors are not acting as constraints and the person's level of motivation is varied, information processing should reflect the level of motivation. Interest in this experiment was in the antecedents and consequences of motivation, thus the ability and opportunity factors were not manipulated. In this study, the ability factor was rendered irrelevant because the evaluative implications of each piece of information were made clear. In other words, by providing subjects with simplified "objective" ratings information for each brand, their ability to use this information was a moot consideration.[18] Likewise, all subjects had equal and ample opportunity to spend as much or as little time as they desired accessing information in the brand by attribute matrices. Finally, subjects were relatively homogeneous in regards to their cognitive ability and, more importantly, they were randomly assigned to experimental conditions in order to control for possible individual differences in the ability factor. In this way the implications of the motivation facet on information processing were isolated.

Dependent Variables

The dependent variables in the study are the amount and style of information processing, and the willingness to buy each brand in the choice sets. The amount of cognitive effort expended in an evaluative task, or the amount of information processing, can be measured as the time spent in a processing task (e.g., Bettman, Johnson, and Payne 1990). Another alternative

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[18] However, subjective knowledge and its associate, product experience (cf. Park, et al. 1994), are measured as covariates for their implications to processing motivation (see below).

used here is to examine the style of processing. In an alternative (brand) by attribute matrix, one way of classifying processing style is according to whether they process the information predominantly by brand, known as alternative- (brand-) based, or holistic processing, or whether predominantly by attribute, known as attribute-based or dimensional processing (Russo and Dosher 1983; Payne, Bettman and Johnson 1988). Used here is a common measure, sometimes called the "Payne Index." It is a ratio calculated by taking the number of transitions from attribute to attribute (i.e., examining one brand at a time) and subtracting it from the number of transitions from brand to brand (i.e., examining one attribute at a time), and then dividing this by the sum of both types of transitions. Theoretically, this number can range from -1 to 1, where more positive values indicate relatively higher levels of by-brand or brand-based processing and more negative values indicate relatively higher levels of by-attribute or attribute-based processing. In information processing tasks involving simple alternative by attribute matrices, an alternative-based processing strategy is considered more effortful than an attribute-based strategy (Russo and Dosher 1983; see also Payne, Bettman, and Johnson 1988).

The final dependent variable was measured by asking subjects to respond to a willingness-to-buy scale (Dodds, Monroe, and Agrawal 1991) for each brand of the product category. This scale measured subjects' willingness to buy each brand at the price given, and appears in Exhibit 8 in Appendix 1. As explained below, prices[19] were higher for some brands, although according to the attribute ratings information, quality was virtually identical between these name brands and the best value brand, an unknown or private label brand.

In this study, the main dependent variables are experiment-wide measures created by summing the values of the variable in question (e.g., time spent examining information, Payne Index ratio) across all six of the product categories used in the experiment. A general relationship's existence, inasmuch as it holds across the six products used here, may be better observed in this aggregate data. Hypothesis testing also was performed on the data from each product matrix individually.

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[19] A *Consumer Reports* "Buyer's Guide" and several note-taking shopping trips ensured that the prices used accurately reflected current market prices for the brands for each product category.

Covariates

Several variables were measured for use as possible covariates in order to examine clearly the proposed relationships. The trait "value consciousness" (Lichtenstein, Netemeyer, and Burton 1990), which reflects a consumer's tendency to seek value in brand choice was measured. The construct items measure motivation to seek value as well as certain behaviors associated with seeking value, such as usage of unit price information and making between brand comparisons of quality and value. Although no formal hypothesis is stated concerning value consciousness, it is likely to positively covary with information processing dependent measures. In the domain of quality judgments, "price-quality schema" (Lichtenstein, Ridgway, and Netemeyer 1993) high price-quality schematics make more chronic use of “high price implies high quality” heuristics in product quality judgments than low schematics. Another possible influence on the motivation to undertake more effortful processing of brand information is the person’s orientation toward social influence. It has been suggested that people who are more influenced by social contexts may be less likely to engage in logical, analytical, and rational (i.e., more cognitively demanding) information processing (Hirschman 1985). Therefore, a scale measuring “attention to social comparison information” (Bearden and Etzel 1990) was included to measure subjects’ tendencies toward social influence. Scales appear in Appendix 1, Exhibits 8, 9 and 10, respectively.

Finally, as discussed previously, consumers’ subjective knowledge, i.e., what they think they know about products, and their brand familiarity may influence motivation (e.g., Park, et al. 1994; Petty, et al. 1997; Raju, et al. 1995). Subjects who have high subjective knowledge about products or who are highly familiar with them may feel that they have enough information already in memory to make an adequate assessment, reducing their need to search for and process new information. Therefore, subjective knowledge about the product category and familiarity with each brand were measured for possible use as covariates. The knowledge and familiarity items appear in Appendix 1, Exhibits 11 and 12, respectively.

Stimuli

The experimental stimuli consisted of six product categories. Each product category contained a set of four brands, three "strong" and one "weak" brand, information on which

appeared in matrices generated by Mouselab. Past work on brand equity has operationalized a "weak" brand -- "no name" or "commodity-status" brand -- as a private label (Park and Srinivasan 1994; Swait, et al. 1994) for product categories where this is feasible, i.e., there is a private label brand on the market, or a fictitious brand where it is not (e.g., Keller 1993). A similar approach was taken here. For product categories where there was no private label, such as for VCRs and basketball shoes, brands were chosen that are perceived as higher or lower quality, consistent with past work on cue utilization (e.g., Dodds, Monroe, and Agrawal 1991); otherwise a fictitious brand name was created. For example, Sony is considered a strong brand and Emerson a weaker brand of VCR, and Nike is a strong brand and ProSport a fictitious brand of basketball shoes. Exhibit 2 in Appendix 1 shows the products and brands used in the study.

The intrinsic attribute ratings information, ostensibly obtained from *Consumer Reports*, appeared in brand-by-attribute matrices. For each product category, four attributes were rated. The number of intrinsic attributes used in past research has ranged between one and seven (e.g., Hulland and Kleinmutz 1994; Mitra 1995; Zaichowsky 1988). Exhibit 14 in Appendix 1 shows each product matrix used in Mouselab, showing the brands, attributes and values. Issues regarding the validity of the method used here are discussed in the limitations section.

Chapter Summary

This chapter presented an experiment designed to test the hypotheses developed in Chapter III. The rationale for using the chosen method was given and the key contributions of the approach were discussed. Following this discussion, a brief overview of the method was presented. Afterward, the method was outlined in detail, including construct operationalizations.

CHAPTER V
RESULTS

Chapter Overview

This chapter presents the results of the experiment outlined in Chapter IV. The chapter begins with a description of the experiment's subjects, turns to the results of the manipulation checks, then presents the results of each hypothesis test. Results are summarized and presented in tables that appear as near as possible to the corresponding discussion. Tables supporting analyses are contained in Appendix 2. The chapter concludes with a chapter summary.

Subjects. Subjects were 145 Virginia Tech undergraduates who participated in the experiment in exchange for course credit. There were 76 males and 69 females, most (57.2%) were juniors, and 91.7% of them fell between the ages of 20 and 22 years, with the modal age being 21 (47.6%).

Table 2: Scale Descriptions

Scale (# items)	Description	Origin	Cronbach's alpha
Need for Cognition (18)	Enjoyment of effortful cognitive endeavors	Cacioppo and Petty (1982)	.89
Economic concern (12)	Importance of financial savings in purchase situations	Formerly used to measure "situataional involvement" in Lichtenstein, Netemeyer, and Burton (1990)	.83
Attention to Social Comparison Information (13)	Susceptibility to social influence	Lennox and Wolfe (1984)	.85
Price-quality Schema (4)	Tendency to make inferences of quality from price cue	Lichtenstein, Ridgway, and Netemeyer (1993)	.77
Value Consciousness	Tendency to seek value in brand choice (7)	Lichtenstein, Netemeyer, and Burton (1990)	.84
Product knowledge (2 per product)	Self-assessed knowledge about products	Adapted from Brucks (1985)	.64 – .80

Scale Reliabilities. Several variables were measured as independent variables or examined for use as possible covariates in this study. Table 2 lists the scales used to measure

these constructs, a brief description, each scale's origin and the Cronbach's alpha obtained for it in the present study. All measures consisted of Likert-type items, assessed on 7-point scales (e.g., "strongly agree" to "strongly disagree"); actual scales appear in Appendix 1, Exhibits 5 – 11. From Table 2 it is apparent that all measures displayed adequate internal consistencies (see Table 2).

Hypothesis Tests

I now turn to the hypothesis tests. Each hypothesis is restated, the analysis method and statistical test are described briefly, then the results are discussed verbally, and where appropriate, given in a table.

Note that in this study, subjects' information processing does not depend on constraints associated with the opportunity and the ability factors. Subjects are given information about product quality in an easily usable form and they are given as much time as they need to use it. Hence, the amount and sequence of information processing reflects the degree of effort devoted to the task, i.e., the information processing motivation. That is, information processing in this study is not constrained by other factors identified in the model (i.e., ability, opportunity); rather, putative differences in information processing are taken to reflect changes in motivation. This is line with past research that has used the amount of time spent examining information to reflect processing motivation (Bettman, Johnson, and Payne 1990). Further, the sequence of processing (e.g., by-brand or by-attribute) was recorded. More attribute processing is thought to be less effortful (Russo and Dosher 1983).

> Hypothesis 1a: Involvement is positively related to time spent processing information when a utilitarian motive is salient, but not related or negatively related when an expressive motive is salient.

Hypothesis 1a proposes an interaction between involvement level (high, low) and motive (utilitarian, expressive) on amount of effort expended in information processing. Involvement and motive are manipulated independent variables; the time spent processing information was recorded using the Mouselab methodology.

CHAPTER V: RESULTS

ANOVA was used to test this hypothesis. No main effects were predicted for involvement or motive on information processing. However, for hypothesis 1a to be supported, the interaction between the two factors should be significant at $p<.05$ and the marginal means should be in the predicted direction. In the statistical tests, several variables that might covary with the dependent measures were included to clarify the relationships of interest here. Among these are need for cognition and economic concern, each one hypothesized to be related to the amount and style of processing. Additionally, value consciousness, price-quality schema, attention to social comparison information, subjective knowledge, and brand familiarity were measured and examined as covariates because of their potential impact on the acquisition of brand information. Moreover, each subject's own results for processing time obtained from the practice matrix were used to help control within-subject variation. Finally, an order term was included to help control for order of presentation effects.

Between-Subjects Analysis Hypothesis 1a. Hypothesis 1a proposes an interaction between involvement and motive on time spent processing information. The summary measure of the time spent examining information, labeled "Alltime," was used first in ANOVA. Alltime is the sum, across all six product categories, of the time each subject spent examining product information; the intent is to examine effects of the independent variables on information processing motivation collapsed across all products. Table 3a shows the ANOVA table using Alltime as the dependent variable. Four covariates appear in the model, need for cognition (NFC), the time spent on the practice matrix (TVtime), economic concern (EconCon), and ATSCI[20]. As can be seen, the main effect of each manipulated factor was not significant. However, as predicted the interaction term is significant, $F(1, 96) = 4.56$, $p = .035$ (see Table 3a)[21]. Table 3b shows the means of each cell for the Alltime measure (see Table 3b). A crossing interaction is apparent. When the motive was utilitarian, the mean time spent examining information is higher in the high involvement condition ($M = 221.46$) than in the low

lxviilxvii———————————

[20] Without using these covariates to clarify the variable relationships, the motive x involvement interaction is still significant, F (1, 111) = 3.39, p = .05.

[21] Differences in number of subjects in significance tests are attributable to missing data points.

involvement condition (*M* = 175.58), although the difference in means failed to reach significance, *t* (52) = 1.64, *p* = .108. Conversely, when the motive was expressive, the mean time spent examining information is lower in the high involvement condition (*M* = 171.80) than in the low involvement condition (*M* = 205.99), again not a significant difference, *t* (49) = 1.41, *p* = .165. At the low involvement level, the difference in processing time means between utilitarian and expressive motive conditions is small and insignificant, *t* (49) = 1.00, *p* = .321. A larger simple effect occurs in the high involvement level. Here the difference between the processing time means for the motives is large and significant, *t* (52) = 2.24, *p* = .029. Taken together these aggregate-level results support hypothesis 1a.

Table 3a: ANOVA Results for Test of Hypothesis 1a

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	423273.70	8	52909.21	9.36	.000
Intercept	25676.84	1	25676.84	4.54	.036
NFC	89971.93	1	89973.93	15.92	.000
TVtime	127723.92	1	127723.92	22.60	.000
EconCon	28587.62	1	28587.62	5.06	.027
ATSCI	19732.27	1	19732.27	3.49	.065
Order	17324.33	1	17324.33	3.07	.083
Involve	5190.44	1	5190.44	.92	.340
Motive	1818.77	1	1818.77	.32	.572
Involve*Motive	**35812.48**	**1**	**35812.48**	**6.34**	**.013**
Error	542440.33	96	5650.42		
Total	4891281.70	105			

Table 3b: Alltime Measure Cell Means for Each Level of Involvement and Motive

Motive	Involvement	Mean	Std. Dev.	*n*
Expressive	Low	205.99	101.75	24
	High	171.80[a]	70.35	27
Utilitarian	Low	175.58	113.53	27
	High	221.46[a]	91.47	27

[a]Means different from each other at p< .05

CHAPTER V: RESULTS

To further test hypothesis 1a, ANOVA was performed for each product category with the time spent examining information as the dependent variable. In these tests, the order of presentation was tested as a covariate and used in the ANOVA when it was significant. To simplify presentation of these results, Table 4a summarizes the ANOVA results of the six product categories, showing the *F*-values and significance of the motive x involvement interaction and the covariates used in each. The interaction was significant for VCR and shampoo, and it approached but did not reach significance for cough syrup, tee shirts and tissues. The ANOVA table for each of these tests appears in Appendix 2, Tables 1-6.

Table 4a: Summarized ANOVA Results for Individual Product Tests of Hypothesis 1a

Product Category	Covariates	Interaction term *F* value	Sig.
1. VCR	NFC, TVtime, Order	*F* (1, 111) = 6.64	.011
2. Cough syrup	NFC, TVtime, EconCon, ATSCI, Order	*F* (1, 100) = 3.30	.072
3. Basketball shoes	NFC, TVtime, Knowledge	*F* (1, 109) = .031	.860
4. Tissues	NFC, TVtime, Knowledge, ATSCI	*F* (1, 90) = 2.69	.104
5. Shampoo*	NFC, TVtime, EconCon, ATSCI	*F* (1, 100) = 4.87	.030
6. Tee shirts	NFC, TVtime, EconCon, ATSCI, Order	*F* (1, 97) = 2.59	.111

* Significant main effect of "Motive," *F* (1,106) = 4.03, *p* = .047

The cell means for the time variable at each level of involvement and motive for each of the product categories is shown in Table 4b. Note that in all six product categories, the effects of the two manipulated factors on processing time evidence the same crossing interaction pattern as the summary measure above. Overall, the results at the individual product level provide mixed support for hypothesis 1a.

Table 4b: Processing Time Cell Means for All Products

Product Category	Motive	Involvement	Mean	Std. Dev.	N
1. VCR	Expressive	Low	48.82	40.94	26
		High	39.67	20.09	30
	Utilitarian	Low	33.84	24.00	30
		High	44.43	22.05	32
2. Cough syrup	Expressive	Low	41.11	22.79	25
		High	38.19	13.81	27
	Utilitarian	Low	32.23	24.81	29
		High	42.30	23.29	28
3. Basketball shoes	Expressive	Low	28.28	23.71	26
		High	25.00	14.81	30
	Utilitarian	Low	27.23	30.26	29
		High	28.51	19.30	31
4. Tissues	Expressive	Low	28.76	16.70	25
		High	22.01	16.87	20
	Utilitarian	Low	23.41	13.40	24
		High	29.24	18.76	29
5. Shampoo	Expressive	Low	27.43	15.19	25
		High	22.14[b]	11.36	27
	Utilitarian	Low	26.35	18.61	27
		High	36.33[b]	19.87	28
6. Tee shirts	Expressive	Low	29.89[a]	12.63	25
		High	22.11[a, b]	13.05	27
	Utilitarian	Low	29.04	18.57	27
		High	36.23[b]	17.88	27

Note: All comparisons are within product category

[a] = Means different from each other at $p < .05$

[b] = Means different from each other at $p < .01$

Within-Subjects Analysis of Hypothesis 1a. Recall that independent variables involvement and motive were manipulated as within-subjects factors by the choice of products used in the study. Products differed in the extent to which they aroused predominantly expressive or utilitarian motives and induced higher or lower involvement in brand choice. Four of the six products used here were chosen because in pre-tests they were revealed to be most representative of the two dimensions of interest. In order of lower to higher involvement products, tissues and VCR were the utilitarian motive products, and shampoo and basketball

shoes were the expressive motive products. The processing time measure for each of these products was used as the dependent variable in a repeated-measures ANOVA, with the product type (higher or lower involvement, expressive or utilitarian motive) and the manipulated facets (involvement and motive) as independent variables, and product order and practice matrix time as covariates. Table 5a shows the ANOVA table and Table 5b lists the cell means and descriptive statistics for the test.

Table 5a: Repeated-Measures ANOVA Results for Test of Hypothesis 1a

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
WithINV	4976.86	1	4976.86	21.57	.000
WithINV*Order	5559.58	1	5559.58	24.10	.000
WithINV*TVtime	1650.05	1	1650.05	7.15	.009
WithINV*BetwINV	703.13	1	703.13	3.05	.084
WithINV*BetwMOT	78.24	1	78.24	.34	.561
WithINV*BetwINV *BetwMOT	119.80	1	119.80	.52	.473
Error (WithINV)	26068.24	113	230.69		
WithMOT	2228.80	1	2228.80	11.33	.001
WithMOT*Order	1307.92	1	1307.92	6.65	.011
WithMOT*TVtime	71.62	1	71.62	.36	.548
WithMOT*BetwINV	6.02	1	6.02	.03	.861
WithMOT*BetwMOT	429.64	1	429.64	2.18	.142
WithMOT*BetwINV *BetwMOT	100.54	1	100.54	.51	.476
Error (WithMOT)	22235.73	113	196.78		
WithINV*WithMOT	**1557.08**	**1**	**1557.08**	**7.56**	**.007**
WithINV*WithMOT *Order	482.50	1	482.50	2.34	.129
WithINV*WithMOT *TVtime	1.61	1	1.61	.01	.930
WithINV*WithMOT *BetwINV	32.04	1	32.04	.16	.694
WithINV*WithMOT *BetwMOT	1.77	1	1.77	.01	.926
WithINV*WithMOT *BetwINV*BetwMOT	533.83	1	533.83	2.59	.110
Error (WithMOT)	23267.98	113	205.91		

Table 5b: Processing Time Cell Means for Repeated-Measures ANOVA

Within-Subjects	Between-Subjects				
Product (Motive/Involvement)	Motive	Involvement	Time	Std. Dev.	n
1. Shampoo (Exp/Low)	Expressive	Low	28.10	14.14	26
		High	22.21	10.98	33
	Utilitarian	Low	25.89	18.07	29
		High	34.63	20.42	31
		Shampoo Grand Mean:	*27.63*	*16.75*	*119*
2. Tissues (Util/Low)	Expressive	Low	28.94	16.38	26
		High	25.30	19.39	33
	Utilitarian	Low	24.90	15.56	29
		High	30.11	17.95	31
		Tissues Grand Mean:	*27.25*	*17.42*	*119*
3. Basketball shoes (Exp/High)	Expressive	Low	29.44	23.22	26
		High	24.70	14.72	33
	Utilitarian	Low	27.22	30.27	29
		High	29.47	18.86	31
		Basketball shoes Grand Mean:	*27.59*	*22.02*	*119*
4. VCR (Util/High)	Expressive	Low	46.40	39.55	26
		High	41.16	20.74	33
	Utilitarian	Low	33.87	24.08	29
		High	43.97	22.55	31
		VCR Grand Mean:	*41.26* [a]	*27.13*	*119*

Notes: All comparisons are between product categories.
[a] = Different from other product grand means at $p < .001$

From Table 5a it is clear that both the within-subjects main effects and the interaction effect are significant. The within-subjects involvement main effect, WithINV, is significant, $F(1, 113) = 21.57$, $p = .000$, as well as the within-subjects motive main effect, WithMOT, $F(1,113) = 11.33$, $p = .000$. Of more interest here is that the interaction term, WithINV*WithMOT, is significant, $F(1, 113) = 7.56$, $p = .007$. Observing the cell means in Table 5b reveals the nature of the within-subjects main

effects and the two-way interaction. Both the means of the low-involvement products, regardless of motive, and that of the high-involvement/expressive product were within a half-second of each other (shampoo, $M = 27.63$; tissues, $M = 27.25$; basketball shoes, $M = 27.59$). The one mean that is significantly different from them all is for the high-involvement/utilitarian product, VCR, $M = 41.26$. This mean is significantly different from that of shampoo, $t(118) = 4.64$, $p < .001$, from tissues, $t(118) = 4.72$, $p < .001$, and from basketball shoes, $t(118) = 4.36$, $p < .001$. These results support hypothesis 1a but should be interpreted with some caution because of limitations in the study's design, discussed in the following chapter. Overall, the results of both the between-subjects and the within-subjects tests give some support to hypothesis 1a.

> Hypothesis 1b: High involvement will promote more brand-based processing when a utilitarian motive is salient, but more attribute-based processing when an expressive motive is salient.

Hypothesis 1b relates the involvement/motive interaction to the sequence of processing, proposing that brand-based processing would predominate in the high involvement/utilitarian motive condition, but that attribute-based processing would prevail in the high involvement/expressive motive condition. This hypothesis was tested in the following manner.

First the so-called Payne Index was constructed from the Mouselab data on each subject's sequence of information acquisitions (see above discussion and Payne, Bettman, and Johnson 1988, p. 543-544) for each product and summed to create an overall measure, "Allratio," as in Alltime above. This ratio was then used as a dependent measure in an ANOVA with the independent variables motive type and involvement level, including covariates need for cognition and order. The hypothesis would be supported if there were a significant interaction of motive and involvement on the dependent variable. Results are reported in Table 6a. The interaction term approached significance, $F(1, 133) = 3.23$, $p = .075$, but the main effects of motive and involvement did not come close.

Table 6a: ANOVA Results for Test of Hypothesis 1b

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	2.627	5	.525	2.87	.017
Intercept	.473	1	.473	2.58	.110
NFC	1.799	1	1.799	9.82	.002
Order	.315	1	.315	1.72	.192
Involve	.025	1	.02510	.14	.712
Motive	.005	1	.00457	.03	.875
Involve*Motive	**.591**	**1**	**.591**	**3.23**	**.075**
Error	24.345	133	.183		
Total	46.750	139			

Although the interaction is not significant, it is worthwhile to look at the means of each cell in the experiment. Table 6b presents these results. Recall with regard to the Payne Index that more positive numbers represent relatively more by-brand or brand-based processing, and more negative numbers signify relatively more by-attribute or attribute-based processing. Although not a statistically significant effect, a crossing pattern can be observed for the Allratio measure; unlike the results for the processing time measure, however, the means are in the opposite direction from what was predicted. These results do not support hypothesis 1b, and in fact, seem suggestive that the opposite relationship may be true. Apparently individuals in the high involvement/expressive motive condition processed information more by brand but – in light of the results from testing hypothesis 1a – they did so in a relatively quicker manner.

Table 6b: Allratio Measure Cell Means for Each Level of Involvement and Motive

Motive	Involvement	Mean	Std. Dev.	n
Expressive	Low	.315	.461	36
	High	.444	.369	37
Utilitarian	Low	.428	.406	37
	High	.341	.502	35

Hypothesis 1b examined for each product individually using ANOVA, with independent variables motive and involvement, the Payne Index as the dependent variable, and need for cognition and an order term as covariates.

CHAPTER V: RESULTS

Table 7a summarizes the ANOVA results for the six product categories, showing the motive by involvement interaction terms (full ANOVA tables for each of these tests appear in Appendix 2, Tables 7-12). The interaction was significant only for tissues, $F(1, 126) = 4.22$, $p = .042$ and for tee shirts, $F(1, 121) = 3.89$, $p = .051$.

Table 7a: Summarized ANOVA Results for Individual Product Tests of Hypothesis 1b

Product Category	Covariates	Interaction term *F* value	Sig.
1. VCR	NFC, Order	F (1, 127) = .013	.910
2. Cough syrup	NFC, Order	F (1, 131) = 1.52	.220
3. Basketball shoes	NFC, PQ schema, Order	F (1, 127) = .527	.469
4. Tissues	NFC, Order	F (1, 126) = 4.22	.042
5. Shampoo	NFC, Order	F (1, 123) = 1.69	.196
6. Tee shirts	NFC, Order	F (1, 121) = 3.89	.051

* Significant main effect of "Motive," $F(1,106) = 4.03$, $p = .047$

To examine the direction of this interaction, cell means for each product at both levels of involvement and motive were compared; these are shown in Table 7b. Note that the means of each cell do not show the pattern expected for the involvement/motive interaction. In fact the only significant difference was in the tee shirt case, between levels of involvement in the expressive motive condition; the Payne Index for the high involvement cell ($M = .600$) was significantly greater than the low involvement cell ($M = .312$), t (70) = 2.07, $p < .05$. This indicates more brand-based processing in the high involvement condition, opposite what was predicted. In light of the results overall, hypothesis 1b is not supported. Hypotheses 2a and 2b are examined next.

Table 7b: Payne Index Cell Means for All Products

Product Category	Motive	Involvement	Mean	Std. Dev.	n
1. VCR	Expressive	Low	.122	.644	32
		High	.086	.676	36
	Utilitarian	Low	.102	.681	37
		High	.201	.612	34
2. Cough syrup	Expressive	Low	.379	.524	36
		High	.382	.561	37
	Utilitarian	Low	.467	.581	29
		High	.307	.614	28
3. Basketball shoes	Expressive	Low	.416	.671	36
		High	.404	.689	37
	Utilitarian	Low	.415	.666	34
		High	.315	.764	33
4. Tissues	Expressive	Low	.423	.657	35
		High	.674	.437	37
	Utilitarian	Low	.657	.511	33
		High	.525	.612	33
5. Shampoo	Expressive	Low	.278	.754	35
		High	.576	.551	37
	Utilitarian	Low	.592	.563	31
		High	.586	.552	32
6. Tee shirts	Expressive	Low	.312 [a]	.623	35
		High	.600 [a]	.515	37
	Utilitarian	Low	.570	.487	32
		High	.396	.565	29

[a] = Means different from each other at $p < .05$

Hypothesis 2a: Economic concern is positively related to the amount of time spent processing brand information.

Hypotheses 2a proposes a positive effect of economic concern on processing time. Economic concern is measured using the scale described previously. Regression is used to test the relationship between economic concern and amount of time spent processing information. A positive beta for the economic concern term in each regression, significant at $p < .05$ will support

this hypothesis. In order to partial out the effects of within-subject variation on the time measure, the time subjects spent examining information in the practice matrix was included as a term in the regression equation. As in the above tests of hypothesis 1a, the summary processing time measure, Alltime, was used first. Table 8a shows the ANOVA table and Table 8b the model coefficients of the regression with the Alltime summary measure as the dependent variable and the economic concern scale, labeled "EconCon," and TVtime as the independent variables. The model's adjusted r-square is .28. As can be seen in Table 8b, the standardized regression coefficient for the EconCon model term is positive, b = .234, and significant, t = 2.83, p =.006, supporting hypothesis 2a. A tercile split was performed for Alltime using the economic concern measure. That is, economic concern was divided into three equal groups, and the lower third and upper third values used as levels at which to compare group means of Alltime. For the low economic concern group (n = 40), the mean processing time was 179.68 seconds (s.d. = 80.09) for the entire six product matrices; for the high economic concern group (n = 36), the mean processing time was 207.81 seconds (s.d. = 88.41). Although in the right direction, a t-test revealed that the difference was not significant, t (74) = 1.46, p = .15.

Table 8a: ANOVA Table for Regression Testing Hypothesis 2a

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	285004.09	2	142502.05	22.08	.000
Residual	690550.75	107	6453.74		
Total	975554.85	109			

Adjusted r-square = .280

Table 8b: Regression Coefficients for Regression Testing Hypothesis 2a

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-80.43	78.49		-1.03	.308
EconCon	**2.93**	**1.04**	**.234**	**2.83**	**.006**
TVtime	1.88	.29	.530	6.42	.000

Table 9a: Summarized Regression Results for Individual Products Tests of Hypothesis 2a

Product Category	Model adj. r-square	EconCon Beta	*t*-value	Sig.
1. VCR	.247*	.041	.50	.620
2. Cough syrup	.205*	.237	2.79	.006
3. Basketball shoes	.168	.145	1.67	.099
4. Tissues	.133	.175	1.96	.052
5. Shampoo	.136*	.206	2.28	.025
6. Tee shirts	.161	.282	3.19	.002

Notes: All regressions include TVtime term. * Includes order term.

Table 9b: Processing Time Means for Economic Concern Tercile Split

Product Category	Economic Concern (n)	Processing Time Mean* (s.d.)	*t*-value	Sig.
1. VCR	Low (43)	43.36 (27.60)	-.907	.367
	High (41)	38.35 (26.09)		
2. Cough syrup	Low (45)	35.11 (16.81)	1.385	.170
	High (41)	41.03 (22.65)		
3. Basketball shoes	Low (45)	24.22 (16.88)	1.393	.167
	High (38)	29.21 (15.43)		
4. Tissues	Low (44)	25.20 (14.91)	1.385	.170
	High (37)	30.28 (18.06)		
5. Shampoo	Low (44)	25.83 (16.09)	1.922	.058
	High (37)	34.18 (22.84)		
6. Tee shirts	Low (42)	24.92 (14.16)	2.534	.013
	High (37)	33.22 (14.92)		

* Measured in seconds

Hypothesis 2a also was examined by regression analysis using each product category individually. Table 9a summarizes the findings of these regressions, showing for each product category the model's adjusted r-square, the betas for the economic concern model terms, their associated *t*-values and significance levels (ANOVA and model coefficient tables are contained in Appendix 2, Tables 13a – 18b). As can be seen in Table 9a, in all product categories the beta for economic concern is positive, and in four of the six product categories, the *t*-value associated

with the beta is significant.

To further examine the effect of economic concern on time spent processing information, subjects were classified as high or low in economic concern on the basis of a tercile split; Table 9b presents the means of processing time at each level. These results in conjunction with those above for the summary variable generally support hypothesis 2a. I now turn to hypothesis 2b.

Hypothesis 2b: Economic concern is positively related to brand-based processing.

Hypothesis 2b predicts that economic concern will be positively related to brand-based processing. Separate regressions were run using Allratio and the Payne Indices for each of the six products individually as dependent variables and economic concern as the independent variable. This hypothesis would be supported if the regression coefficients for the economic concern terms were statistically significant and positive. Table 10a shows the ANOVA table and Table 10b lists the regression coefficients for the regression of Allratio onto economic concern. The economic concern regression coefficient was not significant. Similar results were obtained for regressions of economic concern onto the Payne Index for each product category. Table 11a summarizes the results of each regression analysis (see Appendix 2, Tables 19a – 24b for full ANOVA and regression tables).

Evident from Table 11a is that none of the economic concern betas were significant. A tercile split of economic concern performed on the Payne Index similarly showed that the means at each level were not significantly different (see Table 11b). Thus, hypothesis 2b is not supported.

Table 10a: ANOVA Table for Regression Testing Hypothesis 2b

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.012	1	.012	.062	.804
Residual	26.03	133	.196		
Total	26.04	134			

Adjusted r-square = .006

Table 10b: Regression Coefficients for Regression Testing Hypothesis 2b

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	.286	.386		.740	.460
EconCon	**.0013**	**.005**	**.022**	**.248**	**.804**

Table 11a: Summarized Regression Results for Individual Products Tests of Hypothesis 2b

Product Category	Model adj. r-square	EconCon Beta	*t*-value	Sig.
1. VCR	.007*	.025	.296	.768
2. Cough syrup	.013*	.080	.920	.359
3. Basketball shoes	.003*	.027	.304	.761
4. Tissues	.002	.078	.879	.381
5. Shampoo	.008	.014	.159	.874
6. Tee shirts	.041*	.019	.212	.833

* Includes "Order" model term.

Table 11b: Payne Index Means for Economic Concern Tercile Split

Product Category	Economic Concern (n)	Payne Index Mean (s.d)	*t*-value	Sig.
1. VCR	Low (43)	.036 (.722)	.86	.391
	High (41)	.165 (.604)		
2. Cough syrup	Low (43)	.296 (.603)	1.45	.150
	High (41)	.473 (.508)		
3. Basketball shoes	Low (42)	.430 (.722)	.26	.793
	High (38)	.470 (.642)		
4. Tissues	Low (42)	.568 (.565)	1.52	.133
	High (37)	.744 (.447)		
5. Shampoo	Low (41)	.449 (.637)	.65	.520
	High (37)	.539 (.598)		
6. Tee shirts	Low (39)	.565 (.481)	-1.67	.099
	High (37)	.352 (.634)		

H3a: Need for cognition is positively related to the amount of time spent processing brand information.

According to hypothesis 3a the need for cognition is positively related to time spent information processing. To test this, regression analyses were performed with need for cognition predicting processing time. As in the tests above, the individual's time spent on the practice matrix was included to help control within-subject variability. These hypotheses are given support if the regression coefficient for need for cognition is statistically significant and positive in the analyses. First the Alltime summary measure was regressed onto need for cognition; the ANOVA table for regression appears in Table 12a and the regression coefficients in Table 12b. In this regression there is a significant and strong effect of need for cognition on the overall time spent examining information across all products, the .300 beta is significant at $p < .001$, and the model has an adjusted r-square of .313. A tercile split of need for cognition on the Alltime variable showed no significant difference between the processing times of the low (M = 178.34, s.d. = 106.33) and high (M = 208.87, s.d.= 109.09) groups, $t(84) = 1.31$, $p = .193$.

Table 12a: ANOVA Table for Regression Testing Hypothesis 3a

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	321439.7	3	160719.85	26.04	.000
Residual	666510.8	108	6171.40		
Total	987950.5	110			

Adjusted r-square = .313

Table 12b: Regression Coefficients for Regression Testing Hypothesis 3a

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(constant)	10.13	36.36		.28	.308
NFC	**1.69**	**.46**	**.300**	**3.71**	**.000**
TVtime	1.55	.29	.429	5.31	.000

Table 13a: Summarized Regression Results for Individual Products Tests of Hypothesis 3a

Product Category	Model adj. r-square	NFC Beta	*t*-value	Sig.
1. VCR	.280*	.150	1.86	.065
2. Cough syrup	.211*	.251	2.97	.004
3. Basketball shoes	.178	.176	2.04	.044
4. Tissues	.220	.353	4.16	.001
5. Shampoo	.108	.252	2.77	.006
6. Tee shirts	.150	.265	2.96	.005

Notes: All regressions include TVtime term.
* Includes order term.

Table 13b: Processing Time Means for Need for Cognition Tercile Split

Product Category	Need for Cognition (n)	Processing time Means (s.d)	*t*-value	Sig.
1. VCR	Low (46)	38.07 (21.01)	1.20	.232
	High (50)	45.03 (33.66)		
2. Cough syrup	Low (45)	37.82 (26.13)	.54	.591
	High (50)	40.56 (23.52)		
3. Basketball shoes	Low (44)	24.84 (16.71)	.88	.382
	High (49)	28.93 (26.48)		
4. Tissues	Low (43)	23.66 (23.09)	1.63	.106
	High (48)	30.68 (17.81)		
5. Shampoo	Low (42)	28.57 (22.88)	.02	.986
	High (49)	28.65 (20.60)		
6. Tee shirts	Low (41)	26.17 (19.23)	1.02	.194
	High (48)	30.03 (16.62)		

Next, need for cognition's effect on processing time was examined for each product category individually. Table 13a shows for each product category summarized results of regressing processing time onto need for cognition (full ANOVA and regression tables appear in Appendix 2, Tables 25a – 30b). In five of the six regression analyses, the need for cognition beta is positive and significant at $p < .05$, the exception being the product category VCR, in which case the beta was positive but just missed the .05 significance level. Low and high need for

cognition groups were created by performing a tercile split and the processing time means of each group examined. This analysis showed no significant differences between the groups, though the means were in the predicted directions (see Table 13b). In sum, the weight of evidence from the regression analyses supports hypothesis 3a.

H3b: Need for cognition is positively related to brand-based processing.

Now we examine the effect of need for cognition on processing style, by attribute or by brand, the subject of hypothesis 3b. First the summary measure Allratio was regressed onto need for cognition, results appearing in Tables 14a and 14b. A significant and positive need for cognition beta would support hypothesis 3b. Similar to the results obtained for the processing time regressions, need for cognition showed a strong effect on processing style. A tercile split of the Allratio index on need for cognition showed that the low group engaged in relatively less by-brand processing (M =.169, s.d. = .536) compared to the high group, (M = .462, s.d. = .340), $t(93) = 3.219$, $p = .002$.

Next, regressions were run for each product category, with results summarized in Table 15a (see Appendix 2, Tables 31a – 36b for complete regression analysis results). In these analyses four of six cases show a positive, significant relationship between need for cognition and by-brand processing; the two exceptions were for the product categories VCR and basketball shoes.

Table 14a: ANOVA Table for Regression Testing Hypothesis 3b

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	1.843	1	1.843	10.05	.002
Residual	25.138	137	.183		
Total	26.982	138			

Adjusted r-square = .062

Table 14b: Regression Coefficients for Regression Testing Hypothesis 3b

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-.205	.187	-1.10	.275	
NFC	**.007**	**.002**	**.261**	**3.17**	**.002**

Table 15a: Summarized Regression Results for Individual Products Tests of Hypothesis 3b

Product Category	Model adj. r-square	NFC Beta	t-value	Sig.
1. VCR	.101*	.107	1.30	.196
2. Cough syrup	.045*	.228	2.72	.007
3. Basketball shoes	.011	.134	1.56	.121
4. Tissues	.024	.178	2.06	.042
5. Shampoo	.070	.278	3.26	.001
6. Tee shirts	.065*	.175	2.04	.044

*Includes order model term.

Table 15b: Payne Index Means for Need for Cognition Tercile Split

Product Category	Need for Cognition (n)	Payne Index Means (s.d)	t-value	Sig.
1. VCR	Low (43)	-.006 (.731)	1.28	.204
	High (48)	.176 (.628)		
2. Cough syrup	Low (44)	.141 (.664)	2.56	.011
	High (49)	.458 (.515)		
3. Basketball shoes	Low (42)	.228 (.790)	.99	.325
	High (48)	.384 (.706)		
4. Tissues	Low (42)	.410 (.721)	2.41	.018
	High (47)	.700 (.385)		
5. Shampoo	Low (40)	.153 (.791)	3.45	.001
	High (48)	.625 (.479)		
6. Tee shirts	Low (39)	.271 (.727)	2.28	.025
	High (47)	.557 (.428)		

The Payne Index ratio for each product category was examined further by performing a tercile split on need for cognition. These results, shown in Table 15b, clearly demonstrate the difference in processing style attributable to the need for cognition. In all cases the Payne Index ratio for the high need for cognition group was greater than that for the low group, and in four of six cases, this difference was significant (see Table 15b).

> H4a: More time spent processing brand attribute information increases the willingness to buy the best-value brand in a choice set.

Hypothesis 4a proposes that processing time and willingness to buy the best-value brand in a choice set are positively related. In this study, subjects indicated their willingness to buy each brand at the price shown. Each choice set contained one brand that offered superior value when compared against other brands using the information provided (quality attribute scores and prices). The willingness-to-buy scale for this best-value brand was employed as the dependent measure in tests of hypothesis 4a examining individual product categories. Moreover, similar to the Alltime and Allratio measures, an experiment-wide summary measure, called "AllWTB," was created by summing the willingness-to-buy measure across all six product categories. To test Hypotheses 4a the summary measure AllWTB was regressed onto Alltime, the summary processing time measure. Additionally, the willingness to buy measures for each of the six product categories was tested with individual processing time in separate regressions. A positive and significant beta for the processing time measures would support hypothesis 4a.

Table 16a shows the ANOVA table and Table 16b the model coefficients of the regression with the AllWTB summary measure as the dependent variable and Alltime, the summary processing time measure, as the independent variable. Shown in Table 16b, the standardized regression coefficient for the Alltime model term is positive and significant, b = .258, t = 3.03, p = .003. However, the model's adjusted r-square is .06, indicating a very small percentage of the variance is explained by the one-term model. A tercile split of Alltime was performed to compare the summary willingness to buy measure of those subjects who were in the higher processing time group (M = 45.37 seconds, n = 44) with those in the lower processing

time group (*M* = 27.22 seconds, n = 43). This split shows subjects in the higher processing time group to be significantly more willing to buy the best value brand in each choice set (*M* = 24.41, s.d. = 6.38) compared to those in the lower processing time group (*M* = 20.98, s.d. = 6.24), *t* (85) = 2.53, *p* = .013.

Table 16a: ANOVA Table for Regression Testing Hypothesis 4a

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	353.92	1	353.92	9.20	.000
Residual	4964.09	129	38.48		
Total	5318.02	130			

Adjusted r-square = .06

Table 16b: Regression Coefficients for Regression Testing Hypothesis 4a

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	19.50	1.212		16.08	.000
Alltime	**.02**	**.005**	**.258**	**3.03**	**.003**

Hypothesis 4a was further examined using regression analyses for each product category. Table 17a contains a summary of these regression equations; ANOVA tables and full tables of model coefficients appear in Appendix 2, Tables 37a – 42b. It is apparent from Table 17a that the regression model with processing time predicting the willingness to pay index explained very little variance, ranging from a low of zero to a high of .071. However, observing the betas for the processing time model terms, all are positive, and four of the six are significant. Additionally for each product category a tercile split of the processing time was performed on the willingness to pay measures. The results of this split, shown in Table 17b, reveal that in three of the six cases the higher processing time group indicated significantly greater willingness to buy the best value brand in each choice set. Thus, overall, the results are supportive of hypothesis 4a in terms of finding significant effects but the effects found were rather weak.

Table 17a: Summarized Regression Results for Individual Products Tests of Hypothesis 4a

Product Category	Model adj. r-square	Time Beta	*t*-value	Sig.
1. VCR	.017	.156	1.88	.063
2. Cough syrup	.034	.202	2.47	.015
3. Basketball shoes	.050	.238	2.92	.004
4. Tissues	.003	.069	.81	.421
5. Shampoo	.027	.164	1.94	.054
6. Tee shirts	.071	.279	3.36	.001

Table 17b: Willingness to Buy Best Value Brand Means for Processing Time Tercile Split

Product Category	Processing Time* (n)	Willingness-to-buy Mean (s.d)	*t*-value	Sig.
1. VCR	Low: 27.22 (48)	3.79 (1.46)	1.54	.126
	High: 45.37 (48)	4.27 (1.58)		
2. Cough syrup	Low: 27.06 (48)	3.46 (2.03)	2.63	.010
	High: 44.05 (50)	4.46 (1.74)		
3. Basketball shoes	Low: 16.53 (47)	3.15 (1.50)	2.04	.044
	High: 29.23 (48)	3.75 (1.36)		
4. Tissues	Low: 18.28 (46)	3.93 (1.98)	.05	.958
	High: 29.53 (47)	3.91 (1.64)		
5. Shampoo	Low: 20.00 (47)	3.36 (2.24)	1.76	.082
	High: 31.42 (47)	4.13 (1.97)		
6. Tee shirts	Low: 22.08 (45)	3.69 (1.62)	2.59	.011
	High: 35.81 (46)	4.59 (1.68)		

* = Measured in seconds

H4b: More brand-based processing increases the willingness to buy the best value brand in a choice set.

This hypothesis proposes a relationship between processing style and the willingness to

buy the best-value brand in a choice set, with more brand-based (as opposed to attribute-based) processing leading to greater willingness to buy the best-value brand. To test this, regression analysis was run with the summary measure Allratio (Payne Index ratio summed across each product category) and an order term as independent variables and AllWTB (the willingness-to-buy the best value brand summed across each product category) as the dependent variable. Hypothesis 4b would be supported if the regression coefficient for Allratio was positive and significant. Table 18a shows the ANOVA table and Table 18b shows the regression coefficients for this regression analyis. From these tables it is clear that the sequence of information processing had no effect on the Allratio measure.

Table 18a: ANOVA Table for Regression Testing Hypothesis 4b

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	3.27	1	3.27	.09	.000
Residual	5473.73	143	38.28		
Total	5476.99	144			

Adjusted r-square = .024

Table 18b: Regression Coefficients for Regression Testing Hypothesis 4b

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	22.461	.685		32.77	.000
Allratio	**.346**	**1.184**	**.024**	**.29**	**.771**

Table 19: Summary of regressions of willingness to buy best-value brand onto the Payne Index ratio for each product category.

Product Category	Model adj. r-square	Payne Index Beta	*t*-value	Sig.
1. VCR	.002	.041	.48	.632
2. Cough syrup	.000	-.020	-.23	.817
3. Basketball shoes	.001	.036	.43	.671
4. Tissues	.008	-.122	-1.43	.155
5. Shampoo	.000	.019	.22	.823
6. Tee shirts	.007	-.082	-.94	.350

Hypothesis 4b also was examined using regression analyses for each product category. Table 19 contains a summary of these regression equations; complete regression results appear in Appendix 2, Tables 43a – 48b. From Table 19 it is clear that processing style had no effect on the price premium measure used here. These results give no support to hypothesis 4b

Chapter Summary

This chapter presented the results of an experiment designed to test the hypotheses developed in Chapter III. The chapter began with a chapter overview, then discussed the subjects and manipulation check results. Next, the results of each hypothesis were discussed in turn. Overall the results of this experiment were mixed: four of the eight hypotheses were well supported, three were not supported at all, and one was supported at the aggregate-level but in only two of the six product-level tests. These results are interpreted and the implications of the experiment are discussed in the context of other research in the next chapter.

CHAPTER VI
DISCUSSION

Chapter Overview

This chapter discusses the implications of the results presented in Chapter V. The chapter begins with a brief summary of findings and then addresses each in more detail. Research implications are addressed for the obtained empirical results. Next, the study's limitations are addressed. Finally, several plausible and interesting research avenues are discussed. The chapter closes with a chapter summary.

Summary of Findings. Overall, the results of this study were mixed but did provide some support for the model depicted in Figure 1. Hypothesis 1a predicted that subjects' level of involvement and their salient brand evaluation motives interacted to produce antithetical effects on the amount of time devoted to information processing. A significant interaction was found in the test using the experiment-wide summary measure of processing time, but it was only present for the VCR and shampoo cases when tested at the individual product category level. Other product categories showed the pattern of means expected for processing time but in the ANOVAs examining this hypothesis the interaction terms were not significant. The within-subjects analysis results supported hypothesis 1a. Although limited by the design (i.e., one product per cell), the repeated-measures ANOVA revealed a significant motive-by-involvement interaction term and an examination of the processing times revealed, as predicted, significant differences between experimental cells. In sum, the weight of evidence seems to support that the anticipated interaction exists but the effect is not shown reliably here.

Hypothesis 1b proposed that motive and involvement would interact in their effects on processing style, with comparatively more by-brand (as opposed to by-attribute) processing occurring in the high involvement/utilitarian motive condition than in the high involvement/expressive motive condition. No support at all was given for this hypothesis in any of the tests. At the individual product level, both the tee shirt and tissue ANOVA results showed a significant interaction term, but the cell means were in the opposite direction from what was

hypothesized. Contrary to expectation, for these two product categories involvement seemed to motivate relatively more brand-based than attribute-based processing when coupled with an expressive motive.

Hypothesis 2a was well supported by the results of the regression analyses used to examine it. In the aggregate-level test and in four of the six product tests, economic concern was positively related to the amount of time spent processing brand information. However hypothesis 2b was not supported; none of the regression results showed the anticipated positive relationship between economic concern and brand-based processing.

Hypotheses 3a and 3b proposed that need for cognition is positively related to the amount of time spent processing and the tendency to process by brand, respectively. The regression results strongly supported hypothesis 3a: the aggregate-level test and five of the six product-level tests revealed significant betas for need for cognition and relatively high r-square values (around .3). For hypothesis 3b, significant results were obtained at the aggregate level and for four of the six product categories. However, this time the r-squares were very small, around .06. From these results we may conclude that there is an observable effect of need for cognition on processing style, but it is demonstrated here to be a weak effect.

Similar regression results were obtained for tests of hypothesis 4a which predicted that more time spent processing information would increase the willingness to buy the best value brand in each choice set. The aggregate-level and four of the six product-level regressions showed a significant beta for processing time but again the r-square values were around .06 indicating that there is an effect but it is a small one. Hypothesis 4b proposed that more brand-based processing would increase willingness to buy the best-value brand in the choice set. This hypothesis was not supported at all by any of the test results.

In sum, the results of this study were mixed but generally supportive of the model offered in Figure 1 (see Appendix 1). These findings are discussed in more detail in the sections below.

Involvement-Motive Interaction and Information Processing

One goal of this experiment was to challenge existing consumer research that has equated the involvement construct with information processing motivation (e.g., Zaichowsky 1988; Celsi

and Olson 1988), that is, the level of effort devoted to processing brand information (e.g., MacInnis and Jaworski; Mitra 1995). In this view, higher involvement leads to more systematic or deeper processing of product-related attribute information and reduced impact of extrinsic cues and simplifying heuristics. The results of the present study, particularly the analysis at the aggregate level using the summary measure of processing time, suggest that it is incorrect to view involvement's information processing implications so simply. Researchers have come to some consensus that involvement means the personal relevance or importance of an issue, product, or decision situation to a person (e.g., Assael 1981; Bloch and Richins 1983; Greenwald and Leavitt 1984; Mitchell 1979; Rothschild 1984; Zaichowsky 1985). But this personal relevance need not necessarily focus an individual on the utilitarian or functional aspects of the judgment in question. Involvement is best conceived as a non-directional, energizing construct, needing a goal or motive to provide direction (Park and Mittal 1985). Persuasion research in an advertising context has shown that involvement and motive interact to produce information processing that is qualitatively different depending upon whether the motive is expressive or utilitarian (e.g., Park and Young 1986; Shavitt, et al. 1994). The current research extends this previous work into the cue utilization domain, demonstrating that information processing – and the antecedent motivation – is affected by the interaction of involvement with motive.

The interaction of involvement with motives is important to understand because of its dramatic effect on information processing motivation and the consequences that evolve from this motivation. Park and Mittal (1985, p. 224) conclude that "the linkage between the involvement level and outcome variables such as information search, brand comparison, number of choice criteria, and number of acceptable alternatives requires careful reconsideration." In order for research findings to be put to use, for example to meta-theorize, there must be a common understanding of the construct relationships, the terms used in describing them, and how the constructs are operationalized in different studies. In some cases low involvement processing has been confused with that obtained when high involvement is coupled with an expressive motive (cf. MacInnis and Price 1987). For example, Bei and Heslin (1996) found that high involvement led to consumers making worse-value choices (i.e., the paying of increased price

premiums). This seems counterintuitive for researchers holding a traditional view of involvement's effects on information processing and who take Bei and Heslin's findings at face value. Only by understanding the involvement/motive interaction and by noting that their involvement measure contained items that tapped an expressive motive is one able to put their findings into perspective. Research that relies on dual-process theories – in which involvement is an important mediator of information processing, may benefit from the current research results. Researchers might be advised to use caution with the types of products they use in information processing studies. For example, certain "high involvement" product categories might also invoke expressive motives which together, may lower information processing motivation – much as basketball shoes seemed to do in this study. Other situational cues may induce subjects to be guided by an expressive motive and subsequently suffer from motivational deficits. For example, the gender or attractiveness of others present may influence how a person processes information to the extent that expressive goals are aroused. It is important to recognize how motive interacts with involvement in order to more clearly understand how consumers process information, and how this information processing can in turn influence the value that they obtain in the marketplace.

Some work has examined the influence of different motives and involvement in an advertising context, noting that the effects on information processing are different when different motives preside in the ad evaluation context (Park and Young 1986; Shavitt, et al. 1994). This research shows that the high involvement/expressive motive combination[22] creates a focus on advertising elements associated with social symbolic imagery. In the present study, there were no imagery elements in the information matrices. It is interesting that despite this absence of symbolic elements to draw subjects' attention, a drop-off in information processing was observed. It seems that merely inducing a high involvement/expressive motive combination

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[22] Some researchers have called this type of involvement, "affective involvement" to distinguish it from "cognitive involvement," that which occurs with the interaction of a utilitarian motive (Park and Mittal 1985; Park and Young 1986). However, I prefer to avoid the terms affective and cognitive because each term carries with it the baggage of a rich research tradition that may conjure in various researchers different meanings than those here intended.

lowered subjects' motivation to process information brand information. Low utilitarian involvement may have led subjects to rely on the brand name as a heuristic or quality signal, whereas high expressive involvement subjects may have induced in subjects some type of imagery processing that caused brand imagery associations to become salient. These brand associations may have served as inputs or heightened recall of prior evaluations to be used eventually in the judgment, thereby reducing motivation to process external information (e.g., Lynch, Marmorstein, and Weigold 1988). This is one area for future research to explore.

Economic Concern and Information Processing

The main effect observed for economic concern on the amount of information processing, an empirical first, is an important finding. It shows a direct link between the consumers' concern for economic savings in purchase and their devotion of cognitive effort to an information processing task. This is comparable to the effect predicted by traditional information economists (e.g., Stigler 1961) who proposed that search effort would be devoted on the basis of economic considerations. For example, in Stigler's formulation, as long as the marginal benefits of search exceed the marginal costs, search for lower prices will be undertaken. Thus, higher-priced products should initiate more search than lower-priced products, all else equal. In the present study, greater cognitive effort was devoted to information processing (i.e., search), by high economic-concern subjects than by low economic concern subjects (i.e., subjects who presumably *perceived* greater marginal benefits from added search). Clearly, the economics of information paradigm is in many ways compatible with the information processing paradigm here. However, it is arguable that the information processing paradigm is superior for its capability of examining a multitude of individual-level constructs and its amenability to testing.

Need For Cognition and Information Processing

The relationship between need for cognition and information processing was clearly demonstrated in this study. Extant research on need for cognition is voluminous (see, e.g., Cacioppo, et al. 1996), and its effects on information processing have been well documented in the context of persuasion from advertising (e.g., Petty, Cacioppo, and Schuman 1983) and in use of promotion signals (Inman, McAlister, and Hoyer 1990). However, in the cue utilization

context this is a first empirical demonstration showing need for cognition's effect on the amount and sequence of information processing. Need for cognition reflects a person's tendency to engage in more effortful thinking; in the cue use context, it is the devotion of effort to the information processing task. In this study the effects were clear: high need for cognition individuals spent much more time examining brand attribute information and engaged in relatively more brand- than attribute-based processing compared to low need for cognition individuals. It has been suggested that brand-based processing involves more cognitive effort than attribute-based processing (e.g., Russo and Dosher 1983; Payne, Bettman, and Johnson 1988) but empirical evidence supporting this suggestion has been lacking. However, the present results regarding need for cognition support the idea that brand-based processing is indeed more effortful: in four of six cases, high need for cognition individuals engaged in significantly more brand-based processing than low need for cognition individuals.

Observing need for cognition's effects on processing helps us to understand the effects of other possible influences on information processing motivation, such as the interaction of involvement and motive and economic concern. In terms of time devoted to the task – one measure of processing effort – need for cognition had a similar effect on information processing to that of economic concern. This is an exciting similarity because it shows that in the brand evaluation context, where motivation is concerned the distinction between economic, i.e., monetary considerations, and cognitive considerations is somewhat blurred. That is, individuals seem to have both an economic account and a cognitive account from which they draw resources for information processing motivation.

Information Processing and Price Premiums

As mentioned previously, some research from the brand equity perspective has speculated that certain information processing factors may constrain consumers' ability to detect quality accurately and thus, may contribute to the price premium for a brand name (e.g., Holbrook 1990; Park and Srinivasan 1994). However, these studies did not test this proposition. The results pertaining to hypothesis 4a indicate that information processing is negatively related to the paying of price premiums, although the effect size is small. This finding is compatible with that

of Ha and Hoch (1989) who found that subjects who engaged in more exhaustive processing of brand information were less biased by advertising and made better-value choices. Further, these results fit with the findings of Tellis and Gaeth (1990) who found that subjects made better-value choices as the objective information on product quality increased. In these former studies, the quality of the information (ambiguity, uncertainty) was the information processing constraint, not the motivation. However, the outcomes, in terms of the value of consumers' choices (i.e., a price premium) are similar to those found here.

The present results are also compatible with Goldman and Johansson (1978) who found that increased external search led to lower prices paid for gasoline. In their study, the propensity to undertake search was related to the marginal gains from search, the magnitude of the amount purchased and perceived price dispersion, as well as the marginal costs of search, opportunity costs of time and proxy variables representing search efficiency. Because these authors relied on Stigler's theory to frame their study, once again the compatibility between the economics of information and information processing paradigms is made apparent and integration seems possible.

Important differences must be noted, however, between the framework offered here and the economics of information perspective on price premiums. First, as mentioned, is the use of individual-level psychological constructs that are analogous to many found in the economics perspective. Second, and perhaps the major difference, is the relaxing of the rationality assumption. In the economics of information, consumers are assumed to be rational value maximizers who would use quality attribute information if it were available and they were motivated sufficiently by a cost-benefit analysis. The conceptualization offered here, supported by the empirical results, suggests that sometimes consumers may not use this information, even when it is available at very low cost. This violation of rationality is difficult to incorporate into economic models of price premiums. However, we can understand this behavior better by incorporating psychological constructs, such as the involvement/motive interaction, into our frameworks for understanding consumer’s use of information in the environment. Bettman, Johnson and Payne (1991) called attention to the great gap existing in the literature regarding the

information processing implications of social-symbolic or expressive motives, but the gap has remained. One of the goals of the empirical work undertaken here was to demonstrate an effect of processing motive (utilitarian, expressive) in combination with involvement level on brand information processing outcomes. The judgments made in a brand choice setting regarding product quality, value and willingness to pay, are reflected in the price premiums observed between brands in a market place.

Limitations

This study had several limitations. One limitation is the number of products used in the study. A total of six products were used; all the attendant information matrices and measures (e.g., knowledge, familiarity) may have caused some subjects to be fatigued and, hence, "drop out" of the study by failing to respond to some of the items. Furthermore, it limited the amount of information that could be collected. If each subject was exposed to a smaller number of products, more information could be collected, for example, enduring involvement with the product category, and the responses would possibly be more reliable. Another important limitation is that the within-subjects analysis contains one product per cell. Thus, the product itself is perfectly confounded with the design facet, severely weakening any inferences drawn from this test. It would have been preferable for at least two separate product sets to be used in different replications of the study; these could be combined, assuming appropriate controls are met. I now turn to a discussion of future research directions.

Future Research

Replications and Extensions. The theoretical framework and methodology used here seem useful for generating a number of interesting studies. The most obvious of all are replications and extensions that use different product types, different consumers and refinements in method that take into account the limitations of this study. For example, fewer products and perhaps, fewer brands, should be used to help decrease the tendency for subjects to grow fatigued. A maximum of four products, one representing each involvement/motive combination, should be seen by any subject, and perhaps only three brands. Different replicates could be used to increase the reliability of the findings. In other words, independent studies could use different

exemplars of each product type and the results could be summed across studies. The reduced response load on any one subject could be leveraged into other aspects of data collection, for example by having subjects provide verbal protocols to examine brand associations and provide a more detailed depiction of the internal processes used in evaluations. Also, the study could be designed to include perceptions of quality for the final of the four product categories, counterbalanced across subjects. This would allow the collection of quality perceptions without substantially increasing fatigue and introducing a potential demand artifact into the motivation measure.

Different Methods. Other methods should be explored that use more realistic settings, such as "aisle studies" in grocery stores. In this example, observers could be used to time how long consumers compare brands in product categories and relate this measure to price premiums. Product categories would be chosen previously to incorporate design facets and to facilitate price premium measurement. Confederates could be used that differ in physical attractiveness, thus creating differences in the goal relevance of impressions (Leary and Kowalski 1990).

Finally, the Internet offers much promise for information processing researchers interested in examining the effects of social factors, an underexplored area (Bettman, Johnson, and Payne 1991). In addition to the benefits of unobtrusive measurement that the current version of Mouselab allows, the Internet offers the researcher the capability of using pictures and sounds in manipulations. This increases dramatically the power to manipulate variables related to both impression motivation (Leary and Kowalski 1990) and collect a multitude of data in the context of information processing. It allows more flexibility and realism to be incorporated into research that examines persuasion from advertising or even point-of-purchase (i.e., cue utilization) studies. For example, subjects might be presented with endorsers that differed by attractiveness for advertising-based research; similarly, subjects might be exposed to the image of a more- or less-attractive "target" person and asked to evaluate a brand-by-attribute matrix for a cue utilization study. One advantage of this technique would allow a plethora of process data to be collected, from processing time and number of information pieces to verbal protocols.

Improved Manipulations. Both the involvement and motive manipulations could be

improved. The involvement manipulation used here was very similar to the one used typically in information processing studies in the advertising context (e.g., Petty, Cacioppo, and Schumann 1983), and it was identical to one used in a cue utilization study (Mitra 1995). The difference between the one used here and that found in advertising persuasion studies is that in the persuasion studies, subjects are told they will be allowed to choose a free gift that corresponds (high involvement) or does not correspond (low involvement) to the product being advertised. Perhaps a similar procedure could be used in the type of information processing research conducted here for low-price products; for high-price products (e.g., VCRs, televisions) a lottery method could be used.

The motive manipulation could be improved upon as well. A difficulty is encountered when trying to manipulate variables associated with a person's social situation when experimental tasks take place in an individual context such as the one used here. Several suggestions can be made to overcome this difficulty. The first is to use computers that are not enclosed in individual rooms but, rather, are contained in a classroom setting. This would allow subjects to feel the presence of others without necessarily interacting with them. Second, the rating task used as an impression motive manipulation could itself be improved upon by incorporating other, similar rating tasks. For example, not only are behaviors rated on the impressions they make on others, but on "how self-conscious they make you feel." Furthermore, it might be beneficial to use only the most extreme types of behaviors (i.e., those that create the best or worst impressions on others). Pre-tests could reveal what these are. Third, subjects could read vignettes that make salient impression-related goals, for example, a second-person account of an extemporaneous speech.

Chapter Summary

This chapter discussed the implications of the results presented in Chapter V. The chapter began with a brief summary of the findings. A more detailed discussion of each empirical result was provided next, emphasizing research implications. Following this discussion, the limitations of the study were addressed. Finally, some possibilities for future research were explored.

CHAPTER VI: DISCUSSION

APPENDIX 1

Figure 1: Conceptual Model of Information Processing's Effect on Price Premiums

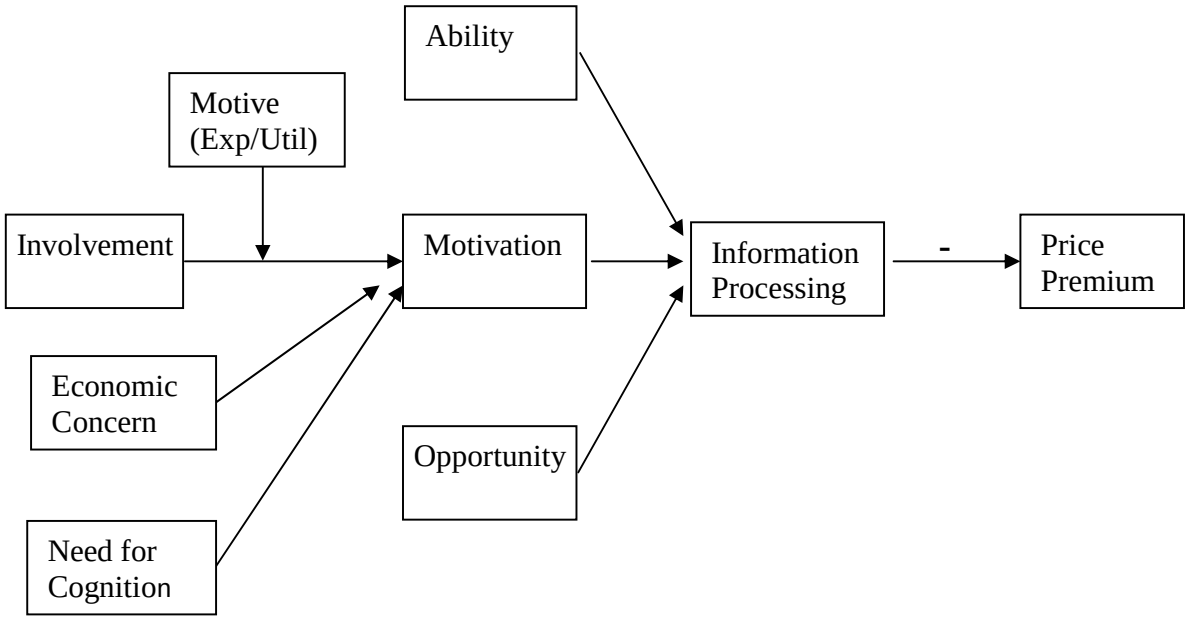

Exhibit 1: Operationalizations of Constructs.

Construct	Operationalization
Independent Variables:	
1. Involvement (higher, lower)	a. Between subjects manipulation: personal relevance of decision (e.g., Petty, Cacioppo, and Schumann 1983) b. Within subjects manipulation: product type (e.g., Lastovicka and Gardner 1978; pre-tests)
2. Motives (utilitarian, expressive)	a. Between-subjects manipulation: priming task (Shavitt, et al. 1994) b. Within-subjects manipulation: product types (e.g., Shavitt, 1990, pre-tests) c. Measure: ATSCI (Lennox and Wolfe 1984)
3. Economic Concern	a. Measure: Purchase Savings scale (revised from Lichtenstein, Netemeyer, and Burton 1990)
Dependent Variables:	
1. Information processing motivation/ processing	a. Amount of time spent processing information (e.g., Bettman, Johnson, and Payne 1990)
2. Price Premium	a. Willingness to-buy scale (Dodds, Monroe, and Grewal 1991)

Exhibit 2: Products (brands) used as experimental stimuli.

	Higher Involvement	Lower Involvement
Utilitarian:	VCR (Sony, Denon, JVC, Emerson*)	Tissues (Kleenex, Puffs, Scott, Kroger*)
	Cough Syrup (Robitussin, Vicks, NyQuil, Kroger*)	
Expressive:	Basketball shoes (Nike, Fila, Converse, ProSport*)	Shampoo (Pantene, Salon Selectives, Pert Plus, Kroger*)
	Tee shirts (Calvin Klein, Hanes, Jockey, Andhurst*)	

* "Weak" brand, i.e., no-name, store brand or fictional brand

APPENDIX 1

Exhibit 3: Involvement Manipulations (e.g., Petty, Cacioppo, and Schumann 1983; Mitra 1995)

High Involvement:

A national marketing research association is conducting this study to assess strategies for introducing various brands of products. These will soon be available in your market area. This study includes only select groups of individuals, so your opinions are very important on an individual basis. Simply evaluate each purchase situation for each product category shown.

Low Involvement:

A national marketing research association is conducting this study to assess strategies for introducing various brands of products. These will soon be made available in other market areas. This study includes a large sample of people from many different sites across the country. Your opinion is not that important on an individual basis, as it will be aggregated with others. Simply evaluate each purchase situation for each product category shown.

APPENDIX 1

Exhibit 4a: *Expressive Motive Manipulation* (adapted from Shavitt, et al. 1994).

For the following situations, imagine that you are the person involved, and rate each on how much you think they would make a good impression on others who are observing you at the time.

	Won't make a good impression at all				**Will make a very good impression**
1. Winning an achievement award.	1	2	3	4	5
2. Wearing a nice suit.	1	2	3	4	5
3. Losing your job.	1	2	3	4	5
4. Giving a poor speech in class.	1	2	3	4	5
5. Dining with a very attractive person.	1	2	3	4	5
6. Failing an important exam.	1	2	3	4	5
7. Being reprimanded by a superior.	1	2	3	4	5
8. Holding a door for someone.	1	2	3	4	5
9. Ordering from a restaurant's wine list.	1	2	3	4	5
10. Wearing fashionable clothing.	1	2	3	4	5

	Won't make a good impression at all				**Will make a very good impression**
11. Cooking someone a nice dinner.	1	2	3	4	5
12. Wearing a stained shirt to class.	1	2	3	4	5
13. Being seen with someone famous.	1	2	3	4	5
14. Walking a pedigreed dog.	1	2	3	4	5
15. Driving an expensive sports car.	1	2	3	4	5
16. Riding a crowded elevator holding flowers.	1	2	3	4	5
17. Speaking a foreign language.	1	2	3	4	5
18. Playing in a popular band.	1	2	3	4	5
19. Being caught shoplifting.	1	2	3	4	5
20. Having a loud public argument.	1	2	3	4	5

	Won't make a good impression at all				**Will make a very good impression**

APPENDIX 1

Exhibit 4b: *Utilitarian Motive Manipulation* (adapted from Shavitt, et al. 1994).

Please rate each of the following objects on how useful it is for solving a problem or performing a task other than the one for which it was designed.

	Not At All Useful				**Extremely Useful**
1. Screwdriver.	1	2	3	4	5
2. Pencil.	1	2	3	4	5
3. Computer mouse.	1	2	3	4	5
4. Brick.	1	2	3	4	5
5. Pair of scissors.	1	2	3	4	5
6. Coffee mug.	1	2	3	4	5
7. Folding chair.	1	2	3	4	5
8. Dish towel.	1	2	3	4	5
9. Paper clip.	1	2	3	4	5
10. Baseball bat.	1	2	3	4	5
	Not At All Useful				**Extremely Useful**
11. Umbrella.	1	2	3	4	5
12. Footstool.	1	2	3	4	5
13. Ruler.	1	2	3	4	5
14. Ironing board.	1	2	3	4	5
15. Pocket calculator.	1	2	3	4	5
16. Fork.	1	2	3	4	5
17. Video tape.	1	2	3	4	5
18. Stapler.	1	2	3	4	5
19. Carpet stain remover.	1	2	3	4	5
20. Toothbrush.	1	2	3	4	5
	Not At All Useful				**Extremely Useful**

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Exhibit 5: *Attention to Social Comparison Information Scale* (Lennox and Wolfe 1984)

	Always True						**Always False**
1. It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.	1	2	3	4	5	6	7
2. I actively avoid wearing clothes that are not in style.	1	2	3	4	5	6	7
3. At parties I usually try to behave in a manner that makes me fit in.	1	2	3	4	5	6	7
4. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.	1	2	3	4	5	6	7
5. I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.	1	2	3	4	5	6	7
6. I find that I tend to pick up slang expressions from others and use them as part of my own vocabulary.	1	2	3	4	5	6	7
7. I tend to pay attention to what others are wearing.	1	2	3	4	5	6	7
8. The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.	1	2	3	4	5	6	7
9. It's important to me to fit into the group I am with.	1	2	3	4	5	6	7
10. My behavior often depends on how I feel others wish me to behave.	1	2	3	4	5	6	7
11. If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.	1	2	3	4	5	6	7
12. I usually keep up with clothing style changes by watching what others wear.	1	2	3	4	5	6	7
13. When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.	1	2	3	4	5	6	7
	Alway True						**Always False**

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Exhibit 6: *Economic Concern Scale* (adapted from Lichtenstein, Netemeyer, and Burton 1990)

When I go shopping,

1. Using coupons is:
2. Getting rebates is:
3. Taking advantage of price deals is:
4. Saving money is:

Measured on seven-point semantic differentials anchored by:
wise-foolish
good - bad
unfavorable – favorable

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Exhibit 7: *Need For Cognition Scale* (Cacioppo and Petty 1982)

	Strongly Agree						**Strongly Disagree**
1. I would prefer complex to simple problems.	1	2	3	4	5	6	7
2. I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5	6	7
3. Thinking is not my idea of fun.	1	2	3	4	5	6	7
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	1	2	3	4	5	6	7
5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.	1	2	3	4	5	6	7
6. I find satisfaction in deliberating hard and for long hours.	1	2	3	4	5	6	7
7. I only think as hard as I have to.	1	2	3	4	5	6	7
8. I prefer to think about small, daily projects to long-term ones.	1	2	3	4	5	6	7
9. I like tasks that require little thought once I've learned them.	1	2	3	4	5	6	7
10. The idea of relying on thought to make my way to the top appeals to me.	1	2	3	4	5	6	7
11. I really enjoy a task that involves coming up with new solutions to problems.	1	2	3	4	5	6	7
12. Learning new ways to think doesn't excite me very much.	1	2	3	4	5	6	7
13. I prefer my life to be filled with puzzles that I must solve.	1	2	3	4	5	6	7
14. The notion of thinking abstractly is appealing to me.	1	2	3	4	5	6	7
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	1	2	3	4	5	6	7
16. I feel relief rather than satisfaction completing a task that required a lot of mental effort.	1	2	3	4	5	6	7
17. It's enough for me that something gets the job done; I don't care how or why it works.	1	2	3	4	5	6	7
18. I usually end up deliberating about issues even when they do do not affect me personally.	1	2	3	4	5	6	7

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Exhibit 8: *Willingness-to-Buy Scale* (Dodds, Monroe, and Agrawal 1991)

At the price shown, I would consider buying (brand x).

Seven-point, Likert-type scale, “Strongly agree” to “Strongly Disagree,” with mid-point anchored by "neither.”

Exhibit 9: *Value Consciousness Scale* (Lichtenstein, Netemeyer, and Burton 1990)

	Strongly Agree						**Strongly Disagree**
1. I am very concerned about low prices, but I am equally concerned about product quality.	1	2	3	4	5	6	7
2. I always check prices at the grocery store to be sure I get the best value for the money I spend.	1	2	3	4	5	6	7
3. I generally shop around for lower prices on products, but they still must meet certain quality requirements before I buy them.	1	2	3	4	5	6	7
4. When grocery shopping, I compare the prices of different brands to be sure I get the best value for the money.	1	2	3	4	5	6	7
5. When purchasing a product, I always try to maximize the quality I get for the money I spend.	1	2	3	4	5	6	7
6. When I buy products, I like to be sure that I am getting my money's worth.	1	2	3	4	5	6	7
7. When I shop, I usually compare the "price per ounce" information for brands I normally buy.	1	2	3	4	5	6	7
	Strongly Agree						**Strongly Disagree**

Exhibit 10: *Price-Quality Schema Scale* (Lichtenstein, Ridgway, and Netemeyer 1993)

	Strongly Agree						**Strongly Disagree**
1. You always have to pay a bit more for the best.	1	2	3	4	5	6	7
2. The price of a product is a good indicator of its quality.	1	2	3	4	5	6	7
3. The old saying "you get what you pay for" is generally true.	1	2	3	4	5	6	7
4 Generally speaking, the higher the price of a product, the higher the quality.	1	2	3	4	5	6	7

APPENDIX 1

Exhibit 11: Product knowledge scales

Product Knowledge: Further, it is necessary to get an idea of how much you know about each product category. Please indicate how knowledgeable you are about the following products.

	Strongly Agree						**Strongly Disagree**
1. I do not know very much about VCRs.	1	2	3	4	5	6	7
2. Compared to most people, I am an expert on VCRs.	1	2	3	4	5	6	7
3. I do not know very much about cough syrup.	1	2	3	4	5	6	7
4. Compared to most people, I am an expert on cough syrup.	1	2	3	4	5	6	7
5. I do not know very much about tissues.	1	2	3	4	5	6	7
6. Compared to most people, I am an expert on tissues.	1	2	3	4	5	6	7
	Strongly Agree						**Strongly Disagree**
7. I do not know very much about basketball shoes.	1	2	3	4	5	6	7
8. Compared to most people, I am an expert on basketball shoes.	1	2	3	4	5	6	7
9. I do not know very much about shampoo.	1	2	3	4	5	6	7
10. Compared to most people, I am an expert on shampoo.	1	2	3	4	5	6	7
11. I do not consider myself to be very knowledgable about tee shirts.	1	2	3	4	5	6	7
12. Compared to most people, I am an expert on tee shirts.	1	2	3	4	5	6	7
	Strongly Agree						**Strongly Disagree**

APPENDIX 1

Exhibit 12: Brand familiarity scales.

Brand Familiarity: In order to control for differences in response rates using this system, it is necessary to record your familiarity with the different brands you encountered.

How familiar are you with each of these brands of VCRs?	**Not at all Familiar**						**Extremely Familiar**
1. Sony	1	2	3	4	5	6	7
2. JVC	1	2	3	4	5	6	7
3. Emerson	1	2	3	4	5	6	7
4. Denon	1	2	3	4	5	6	7

How familiar are you with each of these brands of basketball shoes?	**Not at all Familiar**						**Extremely Familiar**
1. Nike	1	2	3	4	5	6	7
2. Converse	1	2	3	4	5	6	7
3. All-Pro	1	2	3	4	5	6	7
4. Fila	1	2	3	4	5	6	7

How familiar are you with each of these brands of cough syrup?	**Not at all Familiar**						**Extremely Familiar**
1. Robitussin	1	2	3	4	5	6	7
2. Vicks	1	2	3	4	5	6	7
3. NyQuil	1	2	3	4	5	6	7
4. Kroger	1	2	3	4	5	6	7

How familiar are you with each of these brands of shampoo?	**Not at all Familiar**						**Extremely Familiar**
1. Kroger	1	2	3	4	5	6	7
2. Salon Selectives	1	2	3	4	5	6	7
3. Pert Plus	1	2	3	4	5	6	7
4. Pantene	1	2	3	4	5	6	7

How familiar are you with each of these brands of tee shirts?	**Not at all Familiar**						**Extremely Familiar**
1. Hanes	1	2	3	4	5	6	7
2. Andhurst	1	2	3	4	5	6	7
3. Jockey	1	2	3	4	5	6	7
4. Calvin Klein	1	2	3	4	5	6	7

APPENDIX 1

Exhibit 13: Manipulation Checks

Involvement:

How involved were you in this study?

Not at All Involved						Extremely Involved
1	2	3	4	5	6	7

How relevant to you personally was this study?

Extremely Relevant						Not at All Relevant
1	2	3	4	5	6	7

Motive: Q2

For this study, how important was it to choose a brand that expressed your self image?

Not at All Important						Extremely Important
1	2	3	4	5	6	7

For this study, how concerned were you with the impression your brand choice would make on others?

Extremely Concerned						Not at All Concerned
1	2	3	4	5	6	7

APPENDIX 1

Exhibit 14: Information Display Matrices

Tee Shirt

Brands (price)	Tailoring	Stitching	Durability	Pre-Shrunk?
Hanes (4.75)	86	90	92	yes
Jockey (5.59)	91	92	89	yes
Andhurst (3.49)	88	90	91	yes
Calvin Klein (5.95)	92	91	87	yes

Shampoo

Brands (price)	Cleaning	Conditioning	Gentleness	Shine
Kroger (1.99)	94	92	90	91
Pantene (3.89)	91	90	93	92
Salon Sel. (3.79)	92	90	93	93
Pert Plus (2.79)	95	92	89	90

Tissue

Brands (price)	Softness	Strength	Dispensing	Decorative Box?
Puffs (2.19)	95	88	89	yes
Kleenex (2.29)	91	90	92	yes
Scotts (2.19)	92	90	93	yes
Kroger (1.89)	91	89	90	yes

Basketball Shoe

Brands (price)	Durability	Comfort	Support	Shock Absorption
Nike (97.00)	90	95	94	92
Converse (89.00)	92	92	90	91
ProSport (59.00)	89	93	90	90
Fila (93.00)	90	95	94	92

Cough Syrup

Brands (price)	Taste	Cough Relief	Cold Relief	Dosage Cap?
Robitussin (5.99)	85	88	86	yes
Vicks (5.79)	80	89	94	yes
Kroger (3.59)	83	88	90	yes
NyQuil (6.19)	78	89	96	yes

VCR

Brands (price)	Picture Quality	Ease of Use	Tuner Quality	Auto Clock Set
Sony (249.00)	91	92	89	yes
Emerson (199.00)	91	90	88	yes
JVC (269.00)	92	94	90	no
Denon (319.00)	95	90	94	yes

APPENDIX 1

APPENDIX 2

Table 1: ANOVA with dependent variable VCRtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	30806.30	6	5134.38	9.81	.000
Intercept	3908.96	1	3908.96	7.47	.007
NFC	2005.60	1	2005.60	3.83	.053
TVtime	10738.36	1	10738.36	20.52	.000
Order	7066.68	1	7066.68	13.50	.000
Involve	958.72	1	958.72	1.83	.179
Motive	157.02	1	157.02	.30	.585
Involve*Motive	3476.44	1	3476.44	6.64	.011
Error	58099.71	111	523.42		
Total	292089.18	118			

Table 2: ANOVA with dependent variable CStime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	16515.54	7	2064.44	5.98	.000
Intercept	970.20	1	970.20	2.81	.097
NFC	3210.75	1	3210.75	9.31	.003
TVtime	3240.93	1	3240.93	9.39	.003
EconCon	1993.89	1	1993.89	5.78	.018
ATSCI	621.51	1	621.51	1.80	.183
Order	2140.10	1	2140.10	6.20	.014
Involve	5.11	1	5.11	.02	.903
Motive	37.26	1	37.26	.11	.743
Involve*Motive	1137.82	1	1137.82	3.30	.072
Error	34504.38	100	345.04		
Total	211174.54	109			

Table 3: ANOVA with dependent variable BBSHtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	12632.27	6	2105.38	5.12	.000
Intercept	182.59	1	182.59	.44	.507
NFC	1490.47	1	1490.47	3.62	.060
TVtime	8237.43	1	8237.43	20.03	.000
Knowledge	1265.44	1	1265.44	3.08	.082
Involve	265.84	1	265.84	.65	.423
Motive	64.18	1	64.18	.16	.694
Involve*Motive	12.91	1	12.91	.03	.860
Error	44834.99	109	411.33		
Total	143479.75	116			

Table 4: ANOVA with dependent variable TISStime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	9011.94	7	1287.42	6.42	.000
Intercept	474.53	1	474.53	2.37	.127
NFC	4206.03	1	4206.03	20.97	.000
TVtime	1370.90	1	1370.90	6.84	.010
Knowledge	1248.09	1	1248.09	6.22	.014
ATSCI	826.42	1	826.42	4.12	.045
Involve	132.74	1	132.74	.66	.418
Motive	19.69	1	19.69	.10	.755
Involve*Motive	539.42	1	539.42	2.69	.104
Error	18048.03	90	200.53		
Total	94402.37	98			

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Table 5: ANOVA with dependent variable SHAMtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	16515.54	7	2064.44	5.98	.000
Intercept	970.20	1	970.20	2.81	.097
NFC	3210.75	1	3210.75	9.31	.003
TVtime	3240.93	1	3240.93	9.39	.003
EconCon	1993.89	1	1993.89	5.78	.018
ATSCI	621.51	1	621.51	1.80	.183
Order	2140.10	1	2140.10	6.20	.014
Involve	5.11	1	5.11	.02	.903
Motive	37.26	1	37.26	.11	.743
Involve*Motive	1137.82	1	1137.82	3.30	.072
Error	34504.38	100	345.04		
Total	211174.54	109			

Table 6: ANOVA with dependent variable TEEtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	10938.02	8	1367.25	7.66	.000
Intercept	2356.32	1	2356.32	13.21	.000
NFC	1662.84	1	1662.84	9.32	.003
TVtime	2443.49	1	2443.49	13.69	.000
EconCon	1565.58	1	1565.58	8.77	.004
ATSCI	481.85	1	481.85	2.70	.104
Order	1481.01	1	1481.01	8.30	.005
Involve	5.01	1	5.01	.03	.867
Motive	462.40	1	462.40	2.59	.111
Involve*Motive	461.51	1	461.51	2.59	.111
Error	17308.63	97	178.44		
Total	119304.03	106			

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Table 7: ANOVA with dependent variable VCRratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	7.030	5	1.406	3.59	.005
Intercept	2.697	1	2.697	6.88	.010
NFC	.512	1	.512	1.31	.255
Order	6.161	1	6.161	15.73	.000
Involve	.440	1	.440	1.12	.291
Motive	.068	1	.068	.17	.678
Involve*Motive	.005	1	.005	.01	.910
Error	49.746	127	.392		
Total	58.998	133			

Table 8: ANOVA with dependent variable CSratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	3.778	5	.756	2.41	.040
Intercept	1.176	1	1.176	3.75	.055
NFC	2.493	1	2.493	7.96	.006
Order	.861	1	.861	2.75	.100
Involve	.135	1	.135	.43	.513
Motive	.016	1	.016	.05	.822
Involve*Motive	.475	1	.475	1.52	.220
Error	41.044	131	.313		
Total	64.249	137			

Table 9: ANOVA with dependent variable BBSHratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	3.437	6	.573	1.16	.330
Intercept	1.264	1	1.264	2.57	.112
NFC	1.114	1	1.114	2.26	.135
Order	1.284	1	1.284	2.61	.109
PQ schema	.630	1	.630	1.28	.260
Involve	.062	1	.062	.13	.723
Motive	.194	1	.194	.394	.531
Involve*Motive	.259	1	.259	.527	.469
Error	62.521	127	.492		
Total	85.255	134			

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Table 10: ANOVA with dependent variable TISSratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	2.854	5	.571	1.79	.121
Intercept	.002	1	.002	.01	.936
NFC	1.264	1	1.264	3.95	.049
Order	.023	1	.023	.07	.789
Involve	.071	1	.071	.22	.638
Motive	.064	1	.064	.20	.656
Involve*Motive	1.351	1	1.351	4.22	.042
Error	40.305	126	.320		
Total	85.331	132			

Table 11: ANOVA with dependent variable SHAMratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	7.254	5	1.451	4.04	.002
Intercept	.020	1	.020	.06	.835
NFC	3.596	1	3.596	10.02	.002
Order	.986	1	.986	2.75	.099
Involve	.221	1	.221	.61	.435
Motive	1.263	1	1.263	3.52	.062
Involve*Motive	.606	1	.606	1.69	.196
Error	44.160	123	.359		
Total	83.784	129			

Table 12: ANOVA table with dependent variable TEE ratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Model	4.614	5	.923	3.11	.011
Intercept	.282	1	.282	.95	.332
NFC	1.248	1	1.248	4.21	.042
Order	1.482	1	1.482	5.00	.027
Involve	.001	1	.001	.00	.977
Motive	.191	1	.191	.64	.424
Involve*Motive	1.152	1	1.152	3.89	.051
Error	35.870	121	.296		
Total	67.579	127			

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Table 13a: ANOVA table for regression with dependent variable VCRtime and independent variables economic concern, TVtime, and an order term.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	24114.23	3	8038.08	13.71	.000
Residual	66255.85	113	586.34		
Total	90370.09	116			

Adjusted r-square = .247

Table 13b: Regression coefficients for regression with dependent variable VCRtime and independent variables economic concern, TVtime, and an order term.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	37.87	24.47		1.55	.125
EconCon	.15	.31	.041	.50	.620
TVtime	.42	.09	.403	4.83	.000
Order	-16.24	5.12	-.261	-3.17	.002

Table 14a: ANOVA table for regression with dependent variable CStime and independent variables economic concern and TVtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	11767.46	3	3922.42	10.82	.000
Residual	40229.65	111	362.43		
Total	51996.90	114			

Adjusted r-square = .205

Table 14b: Regression coefficients for regression with dependent variable CStime and independent variables economic concern and TVtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(constant)	-11.80	19.27		-.61	.541
EconCon	.68	.24	.237	2.79	.006
TVtime	.31	.08	.394	4.56	.000
Order	-7.54	4.04	-.159	-1.87	.065

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Table 15a: ANOVA table for regression with dependent variable BBSHtime and independent variables economic concern and TVtime.

Source	Sum of Squares	*df*	Mean Square	F	Sig.
Regression	10500.76	2	5250.38	12.53	.000
Residual	46947.75	112	419.18		
Total	57448.51	114			

Adjusted r-square = .168

Table 15b: Regression coefficients for regression with dependent variable BBSHtime and independent variables economic concern and TVtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(constant)	-15.62	19.78		-.79	.432
EconCon	.44	.26	.145	1.67	.099
TVtime	.36	.07	.429	4.94	.000

Table 16a: ANOVA table for regression with dependent variable TISStime and independent variables economic concern and TVtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	5122.69	2	2561.34	9.60	.000
Residual	29361.66	110	266.92		
Total	34484.35	112			

Adjusted r-square = .133

Table 16b: Regression coefficients for regression with dependent variable TISStime and independent variables economic concern and TVtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-10.94	15.91		-.69	.493
EconCon	.41	.21	.175	1.96	.052
TVtime	.25	.06	.376	4.21	.000

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Table 17a: ANOVA table for regression with dependent variable SHAMtime and independent variables economic concern, TVtime, and an order term.

Source	Sum of Squares	*df*	Mean Square	F	Sig.
Regression	4474.87	3	1491.62	5.71	.001
Residual	28479.12	109	261.28		
Total	32953.99	112			

Adjusted r-square = .112

Table 17b: Regression coefficients for regression with dependent variable SHAMtime and independent variables economic concern, TVtime, and an order term.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-22.14	16.44		-1.35	.181
EconCon	.47	.21	.206	2.28	.025
TVtime	.21	.06	.328	3.55	.001
Order	6.57	3.45	.173	-1.91	.059

Table 18a: ANOVA table for regression with dependent variable TEEtime and independent variables economic concern and TVtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	5109.36	2	2554.68	11.55	.000
Residual	23882.25	108	221.13		
Total	28991.60	110			

Adjusted r-square = .161

Table 18b: Regression coefficients for regression with dependent variable TEEtime and independent variables economic concern and TVtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-22.27	14.51		-1.53	.128
EconCon	.61	.19	.282	3.19	.002
TVtime	.22	.05	.363	4.10	.000

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Table 19a: ANOVA table for regression with dependent variable VCRratio and independent variable economic concern.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	6.525	2	3.262	8.32	.000
Residual	49.395	126	.392		
Total	55.920	128			

Adjusted r-square = .007

Table 19b: Regression coefficients for regression with dependent variable VCRratio and independent variable economic concern.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-.685	.580		-1.18	.239
EconCon	.002	.008	.025	.30	.768
Order	.519	.128	.340	4.06	.000

Table 20a: ANOVA table for regression with dependent variable CSratio and independent variable economic concern.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	1.198	2	.599	1.84	.163
Residual	42.361	130	.326		
Total	43.560	132			

Adjusted r-square = .013

Table 20b: Regression coefficients for regression with dependent variable CSratio and independent variable economic concern.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-.311	.516		- .60	.548
EconCon	.006	.007	.080	.92	.359
Order	.192	.116	.144	1.66	.099

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Table 21a: ANOVA table for regression with dependent variable BBSHratio and independent variable economic concern.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	1.128	2	.564	1.18	.312
Residual	60.949	127	.480		
Total	62.078	129			

Adjusted r-square = .003

Table 21b: Regression coefficients for regression with dependent variable BBSHratio and independent variable economic concern.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	-.054	.639		- .09	.933
EconCon	.002	.008	.027	.30	.761
Order	.211	.141	.131	1.49	.000

Table 22a: ANOVA table for regression with dependent variable TISSratio and independent variable economic concern.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.236	1	.236	.77	.381
Residual	38.765	127	.305		
Total	39.001	128			

Adjusted r-square = .002

Table 22b: Regression coefficients for regression with dependent variable TISSratio and independent variable economic concern.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	.149	.492		.30	.763
EconCon	.005	.007	.078	.88	.381

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Table 23a: ANOVA table for regression with dependent variable SHAMratio and independent variable economic concern.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.010	1	.010	.03	.874
Residual	50.751	125	.406		
Total	50.762	126			

Adjusted r-square = .008

Table 23b: Regression coefficients for regression with dependent variable SHAMratio and independent variable economic concern.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	.401	s.575		.70	.487
EconCon	.001	.008	.014	.16	.874

Table 24a: ANOVA table for regression with dependent variable TEEratio and independent variable economic concern.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	2.2560	2	1.128	3.62	.030
Residual	37.979	122	.311		
Total	40.234	124			

Adjusted r-square = .041

Table 24b: Regression coefficients for regression with dependent variable TEEratio and independent variable economic concern.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	1.532	.523		2.93	.004
EconCon	.010	.007	- .133	- 1.51	.134
Order	- .250	.114	- .192	- 2.19	.031

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Table 25a: ANOVA table for regression with dependent variable VCRtime and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	26524.47	3	8841.49	16.16	.000
Residual	62381.53	114	547.21		
Total	88906.00	117			

Adjusted r-square = .280

Table 25b: Regression coefficients for regression with dependent variable VCRtime and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	28.719	12.397		2.32	.022
NFC	.249	.133	.150	1.86	.065
TVtime	.406	.086	.386	4.71	.000
Order	- 15.547	5.003	- .249	- 3.11	.002

Table 26a: ANOVA table for regression with dependent variable CStime and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	12602.99	3	4200.99	11.25	.000
Residual	41840.47	112	373.58		
Total	54443.46	115			

Adjusted r-square = .211

Table 26b: Regression coefficients for regression with dependent variable CStime and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	16.965	10.342		1.64	.104
NFC	.328	.111	.251	2.97	.004
TVtime	.233	.071	.282	3.26	.001
Order	- 9.216	4.147	- .188	- 2.23	.028

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Table 27a: ANOVA table for regression with dependent variable BBSHtime and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	11042.76	2	5521.38	13.44	.000
Residual	46424.50	113	410.84		
Total	57467.26	115			

Adjusted r-square = .178

Table 27b: Regression coefficients for regression with dependent variable BBSHtime and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	- 1 .186	9.189		- .13	.898
NFC	.236	.116	.176	2.04	.044
TVtime	.309	.073	.365	4.22	.000

Table 28a: ANOVA table for regression with dependent variable TISStime and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	8227.14	2	4113.57	16.92	.000
Residual	26986.65	111	243.12		
Total	35213.79	113			

Adjusted r-square = .220

Table 28b: Regression coefficients for regression with dependent variable TISStime and independent variables need for cognition and TVtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	- 8.284	7.182		- 1.15	.251
NFC	.375	.090	.353	4.16	.000
TVtime	.180	.058	.266	3.14	.002

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Table 29a: ANOVA table for regression with dependent variable SHAMtime and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	4072.47	2	2036.23	7.82	.001
Residual	28911.94	111	260.47		
Total	32984.39	113			

Adjusted r-square = .108

Table 29b: Regression coefficients for regression with dependent variable SHAMtime and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	2.759	7.458		.37	.712
NFC	.260	.094	.252	2.78	.006
TVtime	.127	.058	.198	2.18	.032

Table 30a: ANOVA table for regression with dependent variable TEEtime and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	4757.83	2	2378.91	10.79	.000
Residual	24040.95	109	220.56		
Total	28798.78	111			

Adjusted r-square = .150

Table 30b: Regression coefficients for regression with dependent variable TEEtime and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.827	6.864		.56	.578
NFC	.256	.086	.265	2.96	.004
TVtime	.155	.054	.257	2.87	.005

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Table 31a: ANOVA table for regression with dependent variable VCRratio and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	6.522	2	3.261	8.44	.000
Residual	50.254	130	.387		
Total	56.776	132			

Adjusted r-square = .101

Table 31b: Regression coefficients for regression with dependent variable VCRratio and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	- .835	.318		- 2.63	.010
NFC	.004	.003	.107	1.30	.196
Order	.497	.128	.322	3.90	.000

Table 32a: ANOVA table for regression with dependent variable CSratio and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	2.327	1	2.327	7.39	.007
Residual	42.495	135	.315		
Total	44.822	136			

Adjusted r-square = .045

Table 32b: Regression coefficients for regression with dependent variable CSratio and independent variables need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	- .280	.246		- 1.14	.257
NFC	.008	.003	.228	2.72	.007

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Table 33a: ANOVA table for regression with dependent variable BBSHratio and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	1.192	1	1.192	2.43	.121
Residual	64.766	132	.491		
Total	65.958	133			

Adjusted r-square = .011

Table 33b: Regression coefficients for regression with dependent variable BBSHratio and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	- .096	.311		- .31	.758
NFC	.006	.004	.134	1.56	.121

Table 34a: ANOVA table for regression with dependent variable TISSratio and independent variables need for cognition and TVtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	1.361	1	1.361	4.23	.042
Residual	41.799	130	.322		
Total	43.159	131			

Adjusted r-square = .024

Table 34b: Regression coefficients for regression with dependent variable TISSratio and independent variables need for cognition and TVtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	.050	.255		.20	.844
NFC	.065	.003	.178	2.06	.042

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Table 35a: ANOVA table for regression with dependent variable SHAMratio and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	3.973	1	3.973	10.64	.001
Residual	47.441	127	.374		
Total	51.413	128			

Adjusted r-square = .070

Table 35b: Regression coefficients for regression with dependent variable SHAMratio and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	- .384	.277		- 1.39	.167
NFC	.011	.003	.278	3.26	.001

Table 36a: ANOVA table for regression with dependent variable TEEratio and independent variable need for cognition.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	3.218	2	1.609	5.35	.006
Residual	37.266	124	.301		
Total	40.484	132			

Adjusted r-square = .065

Table 36b: Regression coefficients for regression with dependent variable TEEratio and independent variable need for cognition.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	.315	.291		1.08	.281
NFC	.006	.003	.175	2.04	.044
Order	- .286	.113	.218	- 2.53	.013

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Table 37a: ANOVA table for regression with dependent variable VCR_WTB and independent variable VCRtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	8.201	1	8.201	3.52	.063
Residual	330.799	142	2.330		
Total	339.000	143			

Adjusted r-square = .247

Table 37b: Regression coefficients for regression with dependent variable VCR_WTB and independent variable VCRtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.705	.239		15.53	.000
VCRtime	.009	.005	.156	1.88	.063

Table 38a: ANOVA table for regression with dependent variable CS_WTB and independent variable CStime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	20.888	1	20.866	8.08	.015
Residual	490.900	143	3.433		
Total	511.766	144			

Adjusted r-square = .034

Table 38b: Regression coefficients for regression with dependent variable CS_WTB and independent variable CStime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.466	.308		11.25	.000
CStime	.017	.007	.202	2.47	.015

APPENDIX 2

Table 39a: ANOVA table for regression with dependent variable BB_WTB and independent variable BBSHtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	21.530	1	21.530	8.50	.004
Residual	357.282	141	2.534		
Total	378.811	142			

Adjusted r-square = .050

Table 39b: Regression coefficients for regression with dependent variable BB_WTB and independent variable BBSHtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	2.220	.217		10.23	.000
BBSHtime	.018	.006	.238	2.92	.004

Table 40a: ANOVA table for regression with dependent variable TISS_WTB and independent variable TISStime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	2.243	1	2.243	.65	.421
Residual	475.550	138	3.446		
Total	477.793	139			

Adjusted r-square = -.003

Table 40b: Regression coefficients for regression with dependent variable TISS_WTB and independent variable TISStime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.729	.271		13.75	.000
TISStime	.006	.008	.069	.81	.421

APPENDIX 2

Table 41a: ANOVA table for regression with dependent variable SHAM_WTB and independent variable SHAMtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	16.424	1	16.424	3.771	.054
Residual	596.712	137	4.356		
Total	613.137	138			

Adjusted r-square = .020

Table 41b: Regression coefficients for regression with dependent variable SHAM_WTB and independent variable SHAMtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.392	.321		10.25	.000
SHAMtime	.018	.009	.164	1.94	.054

Table 42a: ANOVA table for regression with dependent variable TEE_WTB and independent variable TEEtime.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	32.191	1	32.191	11.29	.001
Residual	382.213	134	2.852		
Total	414.404	135			

Adjusted r-square = .071

Table 42b: Regression coefficients for regression with dependent variable TEE_WTB and independent variable TEEtime.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.228	.288		11.19	.000
TEEtime	.028	.008	.279	3.36	.001

APPENDIX 2

Table 43a: ANOVA table for regression with dependent variable VCR_WTB and independent variable VCRratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.545	1	.545	.23	.632
Residual	323.613	137	2.362		
Total	324.158	138			

Adjusted r-square = .002

Table 43b: Regression coefficients for regression with dependent variable VCR_WTB and independent variable VCRratio.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	4.103	.133		30.89	.000
VCRratio	.097	.201	.041	.48	.632

Table 44a: ANOVA table for regression with dependent variable CS_WTB and independent variable CSratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.195	1	.195	.05	.817
Residual	509.008	141	3.610		
Total	509.203	142			

Adjusted r-square = .000

Table 44b: Regression coefficients for regression with dependent variable CS_WTB and independent variable CSratio.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	4.165	.192		21.64	.000
CSratio	- .070	.281	- .020	- .23	.817

APPENDIX 2

Table 45a: ANOVA table for regression with dependent variable BB_WTB and independent variable BBSHratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.479	1	.479	.18	.671
Residual	364.513	138	2.641		
Total	364.993	139			

Adjusted r-square = .001

Table 45b: Regression coefficients for regression with dependent variable BB_WTB and independent variable BBSHratio.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	2.674	.158		16.95	.000
BBSHratio	.085	.200	.036	.43	.671

Table 46a: ANOVA table for regression with dependent variable TISS_WTB and independent variable TISSratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	6.945	1	6.945	2.04	.155
Residual	462.831	136	3.403		
Total	469.775	137			

Adjusted r-square = .008

Table 46b: Regression coefficients for regression with dependent variable TISS_WTB and independent variable TISSratio.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	4.134	.224		18.45	.000
TISSratio	- .400	.280	- .122	- 1.43	.155

APPENDIX 2

Table 47a: ANOVA table for regression with dependent variable SHAM_WTB and independent variable SHAMratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	.223	1	.223	.05	.823
Residual	589.970	133	4.436		
Total	590.193	134			

Adjusted r-square = .000

Table 47b: Regression coefficients for regression with dependent variable SHAM_WTB and independent variable SHAMratio.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	3.759	.234		16.07	.000
SHAMratio	.066	.293	.019	.22	.823

Table 48a: ANOVA table for regression with dependent variable TEE_WTB and independent variable TEEratio.

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	2.634	1	2.634	.88	.350
Residual	391.997	131	2.992		
Total	394.632	132			

Adjusted r-square = .007

Table 48b: Regression coefficients for regression with dependent variable TEE_WTB and independent variable TEEratio.

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
(constant)	4.172	.197		21.20	.000
TEEratio	- .253	.270	- .082	- .94	.350

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REFERENCES

CARTER A. MANDRIK

RESUME

ADDRESSES

Home:
Kestane Sokak #9-1
Rumeli Feneri, Istanbul, TK
(212) 338-3140
email: cmandrik@ku.edu.tr

Office:
Department of Marketing
CASE Faculty
Koç University
Rumeli Feneri Istanbul, TK
(212) 338-1551

EDUCATION

Ph.D. Virginia Polytechnic Institute and State University, (Marketing)
Major Field: Marketing
Minor Field: Psychology

MBA Rensselaer Polytechnic Institute, September 1989 - August 1991
Major Area: Marketing

B.S. Rensselaer Polytechnic Institute, September 1986 - June 1989
Major Area: Biology
Minor Area: Psychology

TEACHING EXPERIENCE

Consumer Behavior (Fall 1999, Fall 2000, Fall 2001, Spring 2002, Fall 2002)
Advertising and Promotion (Spring 2001, Spring 2002, Fall 2002)
Relationship Marketing (Summer 1998, Spring 1999)
Retail Management (Fall 1997, Spring 1998, Spring 2000)
Advertising (Fall 1995, Spring 1996, 1997)
Marketing Communications (Summer 1996, 1997)
Marketing Management (Summer 1994)

DISSERTATION

"An Information Processing Perspective on Between-Brand Price Premiums: Exploring the Antecedents and Consequences of Motivation"

VITA

RESEARCH

Publications:

Mandrik, Carter A. (1995), "Consumer Heuristics: The Tradeoff Between Processing Effort and Value in Brand Choice," in *Advances in Consumer Research*, Kim Corfman and John Lynch (eds.), Vol. 23, Provo, UT: Association for Consumer Research.

Coupey, Eloise, David Brinberg and Carter A. Mandrik (2000), "Internet-Based Consumption and the Quality of Life of Rural Communities," *Quarterly Journal of Electronic Commerce*, 1 (1).

Bao, Yeqing and Carter A. Mandrik (forthcoming), "Discerning Store Brand Users from Value Conscious Consumers: The Role of Prestige Sensitivity and Need for Cognition," in *Advances in Consumer Research*, Punam Anand-Keller and Dennis Rook (eds.), Vol. 30, Provo, UT: Association for Consumer Research.

Unpublished Presentations:

Fern, Edward F., Terrence A. Bristol, Carter A. Mandrik, and Natalie Adkins, "The Effects of Gender and Acquaintanceship on Self-Disclosure of Personal Information in Focus Groups." Presented at the 1998 Association of Consumer Research Conference (refereed paper), Montreal, Canada (October 3, 1998).

Research in progress:

Mandrik, Carter A., Edward F. Fern, and Yeqing Bao, "Intergenerational Transfer of Brand Equity?" Survey design using mother/daughter dyads to explore intergenerational influence on marketplace beliefs and dispositions that may influence brand-related behaviors. In third revision.

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Fern, Edward F., Terrence A. Bristol, Carter A. Mandrik, and Natalie Adkins, "The Effects of Gender and Acquaintanceship on Self-Disclosures of Personal Information in Focus Groups." Experimental design explores group composition and moderator effects on intimate self disclosures in focus group setting. Revising draft.

Bao, Yeqing, Edward F. Fern, and Carter A. Mandrik, "Cross-Cultural Analysis of Intergenerational Transfer of Brand Preferences." Extends above research to compare Chinese and American consumers; revising draft.

Mandrik, Carter A. and Axsom, Danny, "Managing Impressions by Brand BIRGing." Experimental design tests social psychological model of impression management in context of private label brand usage.

VITA

Mandrik, Carter A. and Yeqing Bao, "Exploring the Concept and Measurement of General Risk Aversion: An Empirical Investigation." Investigates concept and develops measure of general risk aversion, and compares predictiveness of measure versus other related constructs. Revising second draft.

Mandrik, Carter A., "Quality Judgments and Brand Equity: An Integrative Review." Revising draft.

BOOK REVIEWS

Morgan, David L. and Richard A. Krueger, *The Focus Group Kit*, Thousand Oaks, CA: SAGE Publications, Inc., 1998, 697 pp. (approx.), for *Journal of Consumer Affairs* (1998), 32 (2), 436-440.

RESEARCH INTERESTS

Consumer quality/value judgments
Brand equity
Attitude formation/change
Sports marketing

AWARDS AND HONORS

Instructional Fee Scholarship (1993 - 1994)
Student Government Association Travel Fund Grant (1995)
Pamplin Research Scholarship (1995)
1996 AMA Consortium Fellow

PROFESSIONAL AFFILIATIONS

Association for Consumer Research
American Marketing Association

INDUSTRY EXPERIENCE

Marketing Research/Advertising Consultant (August 1996 - present)
Virginia Tech Athletic Department

Vice-President, Sales (August 1991- May 1993)
KP Products, Lakewood, NJ

Marketing Director (September 1990 - May 1991)
CamSys, Troy, NY

VITA

SERVICE

Advisor: Koç University Outdoor Club (Spring 2001 – present)
Advisor: Pi Sigma Epsilon, marketing fraternity (1994 - 1997)
Member: College Research Committee (1993- 1994)
Member: Graduate Honor Court (1994 - 1998)
Greek Advisor, Rensselaer Polytechnic Institute, Troy, NY (1989 - 1991)