

ADVERTISING VS. DIRECT EXPERIENCE
AS MODES OF COMMUNICATING INFORMATION ABOUT PRODUCTS

By

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Abstract of a Dissertation Presented to the Graduate School
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When advertising (AD) and direct product experience (DPE) in the form of sampling have been compared in academic research, the perspective has been that DPE is generally superior to advertising. The dissertation examines the strengths and weaknesses of these two media in communicating product information. A major focus is the confidence and accessibility of beliefs and attitudes derived from AD and DPE.

Drawing from the economics literature, veridical information about experience attributes (e.g., taste) of a product can be gained only from directly experiencing the product, while veridical search attribute information (e.g., ingredients) can be gained from first and second-hand sources. The dissertation proposes that DPE is superior to AD in presenting experience attribute information and AD is

superior to DPE in presenting search attribute information. The concept of media congruence is introduced wherein an attribute is congruent with a medium if the attribute is of the type that is best presented by that particular medium.

When cognitive variables were divided into search and experience categories in the dissertation's three experiments, there was a significant trend supporting the above two propositions. In Experiment II, it was demonstrated that media congruence of a product's important attributes can lead to increased attitude confidence and attitude-behavior (A-B) consistency. Contrary to previous researchers' predictions, A-B consistency was higher ($p < .08$) for AD not DPE for one product (a candy bar) in Experiment II. Subjects attached a larger importance weight to search attributes than experience attributes for this product. The separate influences of media type, attitude confidence, attitude accessibility and attitude extremity as moderators of A-B consistency were empirically demonstrated in Experiment II. Attitude confidence and accessibility were not significantly related in any of the three experiments.

Experiment III proposed that message processing involvement decreases a medium's tendency to focus on the congruent attribute type. For a stationary bicycle and fold-out chair-bed, involvement significantly decreased the effect of media type on the weighting of important attributes but not on belief confidence, accessibility and accuracy. A conceptual framework was developed that unified the results of the experiments.

CHAPTER 1

INTRODUCTION

Direct Product Experience and Advertising Marketing Tools

Kotler (1988, p. 648) states "Sampling is the most effective and most expensive way to introduce a new product." According to the Wall Street Journal (Freedman, 1986), manufacturers and retailers think that product sampling in stores can produce a five-to tenfold increase in sales during the sampling period, and can produce a 10%-15% increase in sales after the sampling period. In one case, a firm that originally sold 80 cases of diet chocolate fudge soda each week sold 250 cases each week after five weeks of sampling (Freedman, 1986). One firm actually spent \$43 million in distributing free samples of its new brand of detergent (Kotler, 1988).

In a Donnelley survey of consumer products firms, large percentages of the firms used the following consumer promotions in 1987: money-back offers/cash refunds (87%), sampling new products (71%), sampling established products (65%) and premium offers (74%). Other consumer promotions included couponing consumers directly (96%), cents-off promotions (69%), sweepstakes (66%), couponing in

retailers' ads (57%), pre-priced shippers (56%) and contests (38%). In that same year, consumer promotion was 28.9%, media advertising 26.5% and trade promotion 44.6% of the total promotion and media advertising spending for firms over \$1 billion in sales (Bowman, 1988). Spending levels for consumer promotion and media advertising were thus very similar but the former was larger.

The sheer array of marketer-controlled direct product experience (DPE) occasions is quite large when one considers that marketers can provide free samples in a large number of forums including country fairs (Dempsey, 1984), supermarkets and shopping malls (Freedman, 1986), sports contests and rock concerts (Meyer 1982). Marketers' widespread use of these consumer promotions is indicative of the belief that they are an important means of selling a product.

In 1985-1987, Donnelley found that for firms over \$1 billion in sales, consumer promotion was growing at the expense of media advertising (Bowman, 1988). According to Advertising Age,

One reason for the increased interest in consumer promotion is advertisers' growing difficulty in finding a unique selling proposition with the onslaught of new products, brand extensions and me-too offerings (Edel, 1987, p. S-2).

It was also proposed that the increasing costs of network television advertising are helping to make promotion tactics more attractive than television advertising (Edel, 1987).

Unlike advertising, when free samples, prizes, premiums and refunds are offered, this can create goodwill or a feeling of obligation or indebtedness to the company for its largesse. The expense of providing a consumer with DPE decreases its use, although the recent advent of selling "trial size" packages rather than giving them away defrays these costs. With some products, consumers actually pay to sample merchandise without taking ownership (e.g., tennis racquet "demos").

One factor in the increasing substitution of consumer promotion for advertising could be that marketers are realizing that certain product benefits or attributes are better communicated by DPE than by advertising (AD). Promotions not only serve the short-term purpose of increasing sales (e.g., coupons, premiums), but they can also allow the consumer to learn about the product's multisensory benefits or attributes. Direct experience is inherently more multisensory than AD and hence is more versatile in its ability to appeal to the five senses.

Purpose of the Dissertation

It should be noted that direct product experience is not always superior to advertising in communicating information. For example, the music and theatrics available in advertising can make it a superior tool for creating a brand image (e.g., pop singers selling soft drinks, cartoon characters selling breakfast cereals). Like television and newspaper media, DPE has its own

strengths and weaknesses. Academic research attention has traditionally focused on television, radio and print media in marketing communications. Less research has been aimed at understanding the "medium" of DPE. Academic and practitioner research should reflect the success and growth of promotions whose main objective is communicating product information and benefits.

The purpose of the dissertation is to examine the effectiveness of advertising and promotional DPE in their presentation of information concerning a new or existing product. The dissertation does not examine the costs of these media, and hence does not address their relative efficiency. Conditions and processes are described and empirically tested that demonstrate that advertising can actually be superior to sampling (DPE) during product introduction. Conversely, other conditions and processes are described that lead to superior performance by sampling. The dissertation thus examines consumer response to AD and DPE within a contingency framework. The focus of this consumer response is the strength of consumer beliefs and attitudes, especially their confidence and accessibility.

Defining Direct Product Experience

Direct product experience is defined as a consumer physically experiencing a product in a way central to its purpose. "Naked DPE" is a special case of DPE wherein the consumer is not given the product's package or display

information which is normally present at purchase (e.g., blind taste tests). The word "product" is defined broadly and can include services. The consumer "tries out" the most important basic functions of the product during the direct product experience. Examples of this would be a consumer tasting a sausage sample in a grocery store, pedaling a friend's stationary bicycle and using a free detergent sample in the laundry. Because most products have a variety of attributes, often it is possible to experience only a subset of the most important attributes. For example, in test-driving an automobile, one does not have to try out every feature to have a "direct product experience". Direct product experience is thus actually a continuum. In the dissertation, DPE will be studied using occasions where an individual has the opportunity to discover a product's important attributes including those normally present on a package or product display.

There are many types of occasions wherein the consumer directly experiences a product. Some of these concern product exposure that the consumer does not solicit (e.g., free detergent sample in mail, gift from a friend). During others, the consumer has actively pursued (solicited) a usage experience (e.g., purchasing the only cola brand available at a fast-food outlet, borrowing a neighbor's lawnmower, using a stationary bicycle at the point-of-purchase). DPE can involve purchase, rental, borrowing and gifts. The consumer does not have to "own"

the product being tried (e.g., test driving an automobile). DPE is not limited to marketer-controlled efforts (e.g., using a brand of computer at work, watching a friend's television); however, the dissertation will focus on marketer-controlled DPE.

The Use of DPE in Past Academic Research

In academic marketing research, some researchers have included additional product information like that on a package in manipulating direct product experience (e.g., Ginter, 1974; Scott and Yalch, 1980; Deighton and Schindler, 1988), while others have not (e.g., Smith and Swinyard, 1983; Hoch and Ha, 1986, Marks and Kamins, 1988). Here, DPE will include the "additional" product information appearing on a package or point-of-purchase display.

The perspective adopted herein is that a marketer is better served when s/he is able to tell the consumer about the relevant product attributes that usually appear on a package. Package information can build a brand name franchise and complement DPE (e.g., low calorie content information can make up for a slightly bitter taste). The wise consumer would not try an anonymous product or a product with no listing of ingredients or other attributes which could be harmful or "bad" (e.g., bleach in a detergent; presence of saturated fats, too much salt or known carcinogens in a candy bar).

Naked DPE in academic research can address theoretically interesting questions, but it does not adequately represent the typical direct product experience in real world promotional campaigns. Research in the social sciences does not necessarily consider this important practical consideration. This is one instance where marketing research could be unique in considering the constellation of cues surrounding indirect experience (AD) vs. direct experience (DPE) in a real world context.

Besides package information, another typical marketing cue is the perceived persuasive intent of advertising. It is obvious that individuals have more skepticism toward advertising than toward a prosaic object description that an experimenter in a laboratory presents as fact. Advertising commonly uses hyperbole and drama that cannot be taken at face value. Adult consumers' awareness of an advertisement's persuasive intent can alter its effectiveness (see Petty and Cacioppo, 1979a for a review). In Fazio and colleagues' empirical work in psychology (e.g., Regan and Fazio, 1977; Fazio and Zanna, 1978b; Fazio, Powell and Herr, 1983), direct vs. indirect experience is often represented by using an object vs. exposure to demonstrations of same. These demonstrations are devoid of persuasive intent. Because of this, caution is necessary in applying their findings to an advertising setting.

The motivation in processing marketing communications may differ from that in processing many types of non-marketing communications. Also, the sheer volume of ads in our lives lowers levels of attention and motivation to process an ad, while narrative object descriptions in a laboratory can focus an extreme amount of attention toward the information provided. Because of these things, caution is necessary in applying laboratory findings to an advertising setting.

Another caution concerning academic research, is that when AD and DPE have been contrasted, the perspective has been that DPE is superior to advertising (e.g., Smith and Swinyard, 1983, 1988; Marks and Kamins, 1988; Berger and Mitchell, 1989). In their study, Smith and Swinyard (1983, p. 265) admit that "the product selected for study had specific features that made direct experience (e.g., taste) particularly relevant to product evaluations". DPE was given an advantage over AD in this and other academic works in marketing. This issue is discussed in more depth in the next chapter. Unlike previous research perspectives, this work advances the idea that AD and DPE have different strengths in presenting new information, and that DPE is not necessarily superior to advertising. It is important for both academics and marketing practitioners to understand how advertising and DPE serve as modes of communicating different types of information to the consumer.

Overview

Contents

The dissertation includes three separate studies. Each of the three deepens the understanding of media effects by adding a contingency variable to predictions about the superiority of AD or DPE in communicating product information. In Experiment I, the contingency variable is attribute type. In Experiment II, the contingency variable is attribute type diagnosticity or importance. In Experiment III, it is message processing involvement.

The dissertation is divided into seven chapters. Chapter 1 introduces the phenomena to be examined and basic academic research perspectives. It also provides an overview of the dissertation and its intended contribution. Chapter 2 reviews the research on direct and indirect experience (including AD) in regard to the formation of product attribute beliefs and attitudes and their impact on behavior. Two important propositions are derived from this review. Chapters 3, 4 and 5 report on Experiments I, II and III respectively. Chapter 6 summarizes the theoretical and managerial implications of the three experiments, and it discusses the limitations of the studies. Chapter 7 presents a condensed retrospective and conclusion.

A major focus of the literature review is media effects on product attribute beliefs. Using Nelson's

(1970, 1974) search vs. experience contrast, it is proposed that DPE is more effective in presenting experience attribute information while advertising is more effective in presenting search attribute information. The links among attribute beliefs, attitudes and behavior are also examined. Experiment I shows how sampling (i.e., DPE) and advertising influence a number of cognitive and attitudinal response variables. In particular, it is demonstrated empirically that AD and DPE are more effective in presenting different types of product attributes. Experiment II repeats some of the predictions from Experiment I and tests them in a different manner. Experiment II also examines the separate effects of four variables which moderate attitude-behavior consistency and what happens when the ratio of two types of important attributes (search and experience) changes.

Experiment III replicates selected predictions from Experiments I and II and extends the analysis by examining media effects on the perceived diagnosticity of product attributes. Experiment III also introduces the factor of message processing involvement that is predicted to moderate the effects of advertising and DPE. An conceptual framework is proposed that unifies the predictions in all three studies.

Contribution

This work has value in the realms of theory and practical application. In the realm of theory, Nelson's

(1970, 1974) search vs. experience contrast in economics is used in categorizing product attributes and showing the strength of experience beliefs derived from DPE. Nisbett and colleagues' work in psychology (Nisbett et al., 1976; Borgida and Nisbett, 1977) is used in proposing that advertising is more effective than DPE in communicating search attributes. Smith and Swinyard's (1982) Integrated Information Response Model concerning advertising and product trial (DPE) is extended by distinguishing between search and experience attributes of a product. In Experiment I, their model's prediction that DPE is generally superior to AD is qualified using the search vs. experience contrast, thus yielding a contingency framework. Experiments II and III further qualify their model's predictions using the level of attribute type diagnosticity and message processing involvement respectively.

To date, no empirical test of the effects of different media on search and experience attribute beliefs has been reported in a major academic journal. This work tests two important propositions about the strengths and weaknesses of AD and DPE using four different products in three different research designs. Consumer nondurables and durables are tested.

Feldman and Lynch's (1988) framework concerning accessibility and diagnosticity effects in decision making is applied to advertising vs. DPE phenomena. Using Baker

and Lutz' (1988) work, this framework is enhanced by the addition of the level of message processing involvement. Complex predictions are made concerning the interaction of media type (AD or DPE), attribute type importance, involvement and attitude in their effect on consumer behavior. This deepens Fazio's description of how attitudes guide behavior (see Fazio, 1986). The conceptual and empirical separation of attitude accessibility and attitude confidence is another theoretical contribution in this work.

In the realm of practical application, the dissertation examines the strengths of DPE and advertising and the conditions under which each is relatively more effective. A better understanding of both media has practical worth for the marketer faced with the choice between advertising and consumer promotion (e.g., sampling, couponing).

CHAPTER 2

DIRECT PRODUCT EXPERIENCE AND ADVERTISING AS SOURCES OF INFORMATION

Introduction

One perspective in the economics literature views advertising (AD) as a source of information about products. Bloom and Krips (1982, p. 27) summarize this perspective as follows:

Advertising makes it easier and faster for consumers to gather information about the attributes of products and services. Consumers will therefore gather more information about the offerings in a market when advertising is available than when it is not. The more informed consumers are about the alternative offerings in a market, the harder it becomes for a firm to hold on to its consumers after a price increase (and the easier it becomes to attract new consumers after a price cut). Consequently, advertising tends to make demand curves more elastic by informing consumers about market alternatives (Stigler 1961; Nelson 1974, 1975; Ferguson 1974).

This assumed information function of advertising has been used by the Federal Trade Commission in lifting the ban on advertising in such professions as law and medicine (Bloom and Krips, 1982).

Just as advertising can be an important information source, direct product experience (DPE) can yield valuable information for the consumer. The perspective here is that DPE imparts unique and important cognitions that

influence other more involved processes and psychological states. Contrasting DPE and AD helps point out the unique cognitive aspects of DPE and illuminates the strengths and weaknesses of these two media in communicating product information.

The following literature review adopts the perspective that direct product experience and advertising are two different modes of communication and persuasion, just as radio and television are different media. The review deals with three topics

- 1) AD and DPE as sources of information for the consumer
- 2) How AD and DPE operate in communication and persuasion
- 3) The types of information best communicated by AD and DPE

The review does not include combination conditions wherein advertising is paired with direct experience and the two interact in their effects on communication and persuasion. The confirmation-disconfirmation paradigm that is often employed in such research (e.g., Olson and Dover, 1979; Klayman and Ha, 1987, Hoch and Ha, 1986; Marks and Kamins, 1988) does not sufficiently address the unique effects of AD and DPE by themselves. Literature in this paradigm usually tries to make AD and DPE discrepant so that AD and DPE together could send out a mixed signal.

The literature concerning these two media has an asymmetric quality, because the vast majority of previous research has been in the area of advertising. Individual

advertising effects on information processing have been examined in depth and breadth (see MacInnis and Jaworski, 1989 for a recent review). Theory and research examining the unique aspects of direct product experience exists (e.g., Smith and Swinyard, 1982; Hoch and Deighton, 1989), but doesn't have the breadth and depth of the advertising literature. Generally, empirical research on direct product experience is especially lacking.

Direct Product Experience

DPE as an Information Source

According to Goering (1985), DPE in the form of product trial is important to consumer decision making when other types of information are undependable, conflicting, expensive relative to the product, or simply not available. She also points out that trial is a good way to learn about the distribution of product quality across possible choices.

Park, Assael and Chaib (1984) assert that

trial can shorten consumers' time for brand evaluation by letting them skip the information search stage. Consequently, trial can increase their opportunity to identify and evaluate alternative brands available on the market and to build an assortment of favorite brands. Furthermore, . . . direct experience (trial) often carries with it subjective validity, and information from trial has more weight in reducing a consumer's sense of risk than information from other sources. This risk reduction would also facilitate building an assortment of favorite brands (p. 4).

Risk and Involvement

There has been a stream of research concerning the use of product trial (i.e., DPE) in low involvement and low risk situations. Watkins (1984) asserts that trial is more likely when there is little perceived risk on the part of the consumer and there is some kind of novelty to the purchase. In a paper concerning low-commitment consumer behavior, Robertson (1976) proposed that information seeking under low commitment conditions is based on product trial and not the use of normal information-seeking and evaluation sources.

Park et al. (1984) summarized their empirical results concerning trial, information search and involvement:

1. Highly involved consumers display significantly lower information search, lower brand comparison, and a higher number of favorite brands for products amenable to trial than for products not amenable to trial.
2. Consumers exhibit significantly higher information search, higher brand comparison, and higher number of favorite brands for highly involved products which are amenable to trial than for low involved products amenable to trial (p. 19).

Lutz and Reilly (1973) analyzed the influence of perceived social and performance risk on information search. They concluded that for products low in performance risk, the most frequently used source of information was buying the product (DPE), but when performance risk was high, this source was the least used. They also found that direct observation and/or experience

before purchase was generally preferred to secondary sources of information like advertising. Locander and Hermann (1979) extended these results and found that product observation and experience become the preferred source of information as the total risk of the purchase situation increases.

Multisensory Information

DPE provides more multisensory information than advertising and is more versatile in its ability to appeal to the five senses. Holbrook (1983) presents empirical evidence for the importance of DPE in how consumers make product evaluations. In analyzing various sweater features, he found that the sweaters' tactile cues were very important to subjects' evaluations. Wheatley, Chiu and Goldman (1981) state

Actual differences in the intrinsic physical characteristics of products are viewed by most retailers as an important, though not the only, means of differentiating their offerings in the marketplace (p. 104).

Multisensory data from DPE can influence consumer decision making at a very subtle level. In one study (Laird, 1932), identical stockings were differentially chosen as having the best quality because of differences in a very faint scent which each pair had. Out of 250 housewives, only six reported having noticed the scents. The conclusions were that scent influences perceived quality and that different types of scent were more influential than others in the perception of quality.

Advertising cannot present the many subtle sensory cues which are interpreted as evidence of "quality."

Being able to experience the product with all one's senses (not just one or two as in advertising) allows the consumer to understand the product and its attributes better. For example, confusion about whether a candy bar is too chewy or too hard is reduced with DPE. One can also decide if crunchiness is really an important attribute or just an unimportant feature that advertising overemphasizes. With DPE, the product is physically present and thus the consumer can test the product and answer questions about its physical characteristics and/or short-term performance.

For most attributes, product observation and experience can produce reliable product beliefs. According to Fishbein and Ajzen (1975), one of the reasons that "descriptive beliefs" derived from direct experience with an object are judged more dependable and less risky is that their ultimate source is oneself:

since the validity of one's senses is rarely questioned, these descriptive beliefs are, at least initially, held with maximal certainty. (Over time, forgetting may reduce belief strength.) (p. 132)

Even with DPE, not all questions will be answered. Robertson (1971) described the notion of product testability whereby some products can be tested easily against physical reality (e.g., a soft drink) while others can only be tested over a period of time (e.g., a

dishwasher). Darbi and Karni's (1973) credence classification describes product attributes that can never be evaluated in normal DPE; instead one must believe (hence "credence") that they exist. Examples are the value of a tonsillectomy or life insurance. DPE data are often ambiguous (Hoch and Deighton, 1989; Hoch and Ha, 1986; Obermiller and Wheatley, 1984). This means that DPE data can be reliable but nevertheless open to interpretation and influenced by any number of competing motivations and situational cues.

DPE vs. Competing Motivations

There are a number of works which examine when and if DPE data can be influenced by competing motivations and situational cues. Cohen and Goldberg (1970) pitted learning theory against the theory of cognitive dissonance in a study of instant coffee. The authors found that learning from DPE was more influential for cognitive evaluation and product choice than the cognitive dissonance mechanism. It was suggested that this might not be true for highly ego-involving products.

A substantial research program concerning self-perception and product trial has been developed by Scott and others (e.g., Scott, 1976; Scott and Yalch, 1980; Tybout and Scott, 1983). A prominent aspect of this research has dealt with how situational cues affect subjects' interpretation and acceptance of product information that includes DPE information. A basic tenet

of self-perception theory is that consumers often infer their attitudes from their past behaviors. In one study, a reward for deciding to test a soft drink made subjects relatively more receptive to unfavorable DPE information and relatively less receptive to favorable DPE information (Scott and Valch, 1980). It is likely that the soft drink used in that study had enough ambiguity that it was open to interpretation. Hoch and Ha (1986) present empirical evidence that advertising had no effect on quality ratings derived from DPE when DPE was unambiguous, but advertising did have a significant effect when DPE provided ambiguous evidence.

Like self-perception research, the behavioristic learning paradigm has examined to consumer reactions to promotional incentives like discounted product trial. Behavioristic learning theory in marketing (see Rothschild and Gaidis, 1981 for a discussion) uses DPE in the form of product trial to influence future behaviors including purchase. In this paradigm, the process of shaping consumer behaviors during low involvement situations includes product trial as a first step. Low involvement is thought to diminish cognitive processes so that behavioral reinforcers in the form of trial inducements (promotions) create repetitive purchase behavior and habits concerning product use. According to Rothschild and Gaidis (1981, p. 75):

Secondary reinforcers (money, objects, games)
are less likely to lead to appropriate behavior

than will good product... shaping procedures can be used so that trial is more than a random process. In behavioral learning terms, purchase is a behavior, and the product is a positive (or negative reinforcer).

What this means is that promotion devices like games can be valuable in encouraging product trial but the direct product experience itself must be at or above a certain standard in order to lead to any kind of long-term purchase behavior. If a consumer has discovered through DPE that the product is inferior (unambiguous information), only a large incentive will induce future purchase. In a similar manner, situational cues (e.g., advertising) or a strong motivation (e.g., cognitive dissonance) cannot undo unambiguous information (e.g., a light bulb only lasts a few weeks). This involves at least a small amount of learning or information processing. The following works make information processing a central focus in studying AD and DPE effects.

DPE Effects on Beliefs, Attitudes and Behavior

Perhaps the best example of this information processing perspective of AD and DPE effects is Smith and Swinyard's (1982, 1983, 1988) theoretical and empirical work that directly contrasts advertising and product sampling. This and other empirical works in this section are described in more detail later in this chapter. Smith and Swinyard's Integrated Information Response Model proposes that, in general, DPE produces stronger ("higher

order") beliefs than AD. These stronger beliefs in turn produce stronger ("higher order") attitudes that are more predictive of behavior. Smith and Swinyard (1983) hypothesized and found that attitudes derived from DPE were more confidently held and more extreme than after AD concerning a new snack food. They found that attitudes based on DPE predicted actual purchase ($r = .57$), and that DPE attitudes predicted behavior better than attitudes derived from advertising ($r = .57$ vs. $.18$). Concerning the mechanism by which DPE exposure produces stronger affect, they stated (p. 265):

Our results suggest affective extremity and confidence play a role, but other factors such as clarity, persistence, resistance, accessibility, and salience (Fazio and Zanna, 1981) may be involved.

Berger and Mitchell's (1989) work tested the effects of product sampling vs. advertising. In pretests, they attempted to equate the information available in AD with the information available in direct experience for five candy bars. They found that attitudes derived from DPE were not significantly more accessible from memory than those derived from one, three or four AD exposures (measured by the time it took to answer 10 yes-no product attitude questions), but they were more confidently held than those derived from one AD exposure. DPE attitudes were not held with significantly higher confidence when compared to the three and four AD exposures conditions. Attitude-behavior consistency was significantly higher for

DPE exposure than for the one AD exposure, but there were no significant differences between DPE and the three and four AD exposure conditions in their study.

Using Smith and Swinyard's (1982) model, Marks and Kamins (1988) predicted that beliefs and attitudes derived from DPE would be more confidently held than those derived from AD exposure. A ball point pen and an advertisement for same were used as stimuli. Though Marks and Kamins' experiment had a large sample size ($n= 88$ for the two treatments together), they found that DPE produced only marginally significant results supporting the above predictions that beliefs and attitudes derived from DPE would be more confidently held than would those derived from advertising.

Smith and Swinyard (1988) predicted that product belief strength and confidence would be greater for product trial (DPE) than for advertising. "Strength" was operationalized as the likelihood that the snack food product had "X" attribute. Using the same data set collected for their 1983 work, the strength prediction was significantly supported for four out of six attributes and the confidence prediction was significantly supported for five out of six.

It should be noted that the DPE subjects were given the product in a bowl and not accompanied by the package. The package could have communicated some important product attributes like price and ingredients. This study, their

1983 work and the related empirical work by Marks and Kamins (1988) made no attempt to make the information content of AD and DPE as equivalent as possible. These studies and their methodology are treated in more depth later in this chapter. Basically, the studies in this section predicted and demonstrated that DPE produces beliefs and attitudes which are more strongly held than those derived from AD. The stimuli used in these studies were products which were conducive to multisensory experience which automatically put AD at a disadvantage. Belief strength predictions and conclusions were treated at an aggregate level and with no differentiation between types of beliefs.

The Experiential View of Consumer Behavior

Holbrook and Hirschman (1982) offer another view of DPE which they directly contrast with the information processing view. The subjective, symbolic, aesthetic and hedonic aspects of consumption are basically defined as the experiential view of consumer behavior. According to the authors (p. 132),

Consumption has begun to be seen as involving a steady flow of fantasies, feelings and fun encompassed by what we call the 'experiential view.' This experiential perspective is phenomenological in spirit and regards consumption as a primarily subjective state of consciousness with a variety of symbolic meanings, hedonic responses, and esthetic criteria.

The experiential view has a much stronger emphasis on imagery and subjectivity than does the classic information

processing view. Consumers take their sensory experience and then add their own inputs to the direct product experience (Hirschman and Holbrook, 1982). The authors use the example of smelling perfume which involves encoding its scent and generating "internal imagery containing sights, sounds and tactile sensations, all of which are also 'experienced'" (p. 92).

MacInnis and Price (1987) discuss imagery within the consumption experience. In reviewing works that emphasize the importance of imagery in consumption (e.g., Hirschman and Holbrook, 1982; Holbrook and Hirschman, 1982), MacInnis and Price concluded that imagery during DPE can increase product satisfaction.

Hirschman and Holbrook (1982) review another aspect of the experiential view that concerns the presence and importance of emotional arousal in consumption. Consistent with Holbrook and Hirschman's experiential view, Smith and Swinyard (1983) suggested physiological participation from emotional response that accompanies direct product experience helps make attitudes derived from DPE stronger than those derived from advertising.

Though Smith and Swinyard's theory (1982, 1983, 1988) is a classic information processing approach, it does not deny the existence of emotional influence. At the same time, the experiential view would recognize that more objective attributes such as grams of carbohydrates and net weight of a candy bar are not necessarily connected

with "fantasies, feelings and fun". In fact, for many consumers, some products lack attributes which are connected with "fantasies, feelings and fun" (e.g., paper towels).

Summary

It seems to be clear that, like advertising, DPE is an important source of information for the consumer, especially when information is broadly defined to include Holbrook and Hirschman's "fantasies, feelings and fun". DPE's personal nature, reliability and varied types of information contribute to its value as such a source.

Much of the work in marketing concerning DPE has confirmed the basic notion that DPE is valuable and rich as an information source; much less research has studied exactly how DPE works. Even less research has contrasted the effects of advertising vs. direct experience. The following sections review in depth the literature that directly contrasts how AD and DPE work in communicating product information and influencing beliefs, attitudes and behavior.

Theoretical Foundations: Fazio and Zanna (1981)

The empirical and theoretical foundations of research concerning advertising vs. direct product experience have their roots in Fazio and colleagues' research program in social psychology which contrasts direct and indirect experience in a non-marketing context. Fazio and Zanna

(1981) presented a review of the ability of attitudes formed from direct vs. indirect experience to predict behavior. They reviewed research mainly in social psychology and asserted that one of the reasons that attitudes derived from direct experience are more consistent with behavior is that direct experience produces stronger attitudes.

Smith and Swinyard's later (1982) contribution was the addition of the important antecedent variable of belief strength to the chain of connections between media, attitude strength and A-B consistency. Their work in marketing basically proposed that DPE leads to stronger beliefs which lead to stronger attitudes which are more predictive of behavior. Their model has more complexity that will be discussed in a later section. Though Fazio and Zanna (1981) do not consider the belief strength antecedent (they did include the sheer amount or salience of information), their work is important in explaining how DPE based attitudes guide behavior.

Fazio and Zanna's (1981) review contrasting the effects of direct and indirect experience on attitudes and behavior will not be repeated here. However, relevant highlights of their review and their research program in social psychology will be described. Fazio and Zanna reviewed the literature concerning the general characteristics of attitudes derived from direct

experience that make them more predictive of behavior.

These attitude dimensions were:

1. confidence and clarity
2. persistence over time
3. resistance to attack

Attitude Strength Dimensions

The first of these dimensions of DPE attitudes was attitude confidence. Using the number of psychology experiments subjects had participated in as the measure of direct experience, Fazio and Zanna (1978a) demonstrated that attitude confidence is directly related to the amount of direct experience a person has had. Fazio and Zanna (1978b) actually manipulated indirect and direct experience using an experimenter's description of the puzzles and examples vs. the subjects working the puzzles respectively. In the work's first experiment, attitude confidence was higher for direct experience than for indirect experience. As noted earlier, empirical work by Smith and Swinyard (1983) and Berger and Mitchell (1989) also found that advertising (indirect experience) produced less attitude confidence than sampling a snack food and candy respectively. Berger and Mitchell's work found this significant difference between AD and DPE when "AD" consisted of one 15 second AD exposure but not when it was three or four 15 second exposures.

Fazio and Zanna's (1981) review cited Watts (1967) in arguing that direct experience attitudes are more persistent over time. A major problem with using this

work as evidence for this claim is that improvising an essay about each of three political was interpreted as direct experience and reading a persuasive message was interpreted as indirect experience. When strictly defined, direct experience is more than writing an essay. It involves the possibility of a multisensory experience. This was not present in Watts' study.

Another problem with Watts' study was its experimental control. Watts asked subjects in the conditions if they had discussed the topic with anyone and if they had read about it since the first session. After analyzing the data, Watts concluded that at least some of the temporal stability of the direct experience condition was due to information seeking (discussing or reading about the topic) between the two attitude elicitations. This would mean that this extra information seeking might have caused the observed effect and not the direct experience itself. It should be noted that Watts' work was the only piece of evidence that Fazio and Zanna cited concerning the persistence of direct vs. indirect experience attitudes.

The third attitude strength dimension that Fazio and Zanna's (1981) review cited used the research program of Kiesler in claiming that direct experience attitudes are more resistant to attack. When related to the AD vs. DPE contrast, the best evidence for this claim came from Kiesler's (1971) study where "direct experience" was

operationalized as using a strategy zero, one or three times in playing a game. In this study, subjects who had played the game strategy only one or zero times were persuaded more by the counterattitudinal communication than were those who had played three times.

Wu and Shaffer (1987) studied the resistance to attack of attitudes derived from indirect and direct experience. Subjects in the DPE condition read information about two new brands of low-calorie peanut butter (i.e., brands "X" and "Y") while they were tasting them. In the indirect experience group, subjects were given the same written information plus three groups' ratings of the products and their attributes. Subjects in both conditions then read a counterattitudinal, non-marketer-controlled testimonial concerning the products. The authors' first study supported Fazio and Zanna's claim that direct experience attitudes are more resistant to (counterattitudinal) attack.

Wu and Shaffer's second experiment was identical except that the testimonial was proattitudinal. This study showed that indirect experience attitudes can actually be more resistant to attack if it is in a @UX[pro]attitudinal direction. This is evidence against any blanket claim that DPE attitudes would be more resistant to any type of attack than attitudes derived from indirect experience. There was greater attitude confidence for direct experience than for indirect

experience in both of Wu and Shaffer's experiments. It should be noted that these studies do not represent the constellation of cues present with AD vs. DPE, because indirect experience was information that did not have the perceived intention to persuade.

Given the above discussion of these three attitude strength dimensions cited in Fazio and Zanna's (1981) work, strong evidence is present for only one of these dimensions: attitude confidence.

Reasons for Attitude Strength

Fazio and Zanna (1981) described the following reasons for the increased strength of attitudes based on direct experience:

- (1) Direct experience may make more information about the object available to the person.
- (2) Direct experience may lead one to focus on incoming behavioral information, which tends to facilitate the ease with which one can decide on one's attitude.
- (3) Direct experience, at least when it is of an unmanded nature, leads to the formation of an attitude which is readily accessible from memory (p. 193).

Availability of more information. Fazio and Zanna did not fully commit to the first position that more information is available with direct experience. They admitted the following:

It is not clear that differential amounts of available information necessarily result from a direct versus an indirect experience. A well-written and thoroughly researched newspaper article can provide a reader with much more information than an actual behavioral experience with the object in question (1981, p. 186).

This last statement supports the idea that indirect experience in the form of advertising could provide more information than DPE. Fazio and Zanna gave no reasons as to why direct experience makes more information available. The previous discussion of multisensory DPE information sheds light on the conditions under which direct experience can provide more information than indirect experience.

Davidson et al. (1985) found that increasing the amount of information available increased intention-behavior (I-B) consistency regardless of the amount and type of prior experience. Direct experience in their study consisted of the number of times one had ever voted in the past, whether one had voted in the primary and for whom had voted among the two candidates of interest in the primary. Information was not manipulated but consisted of respondents' free recall listing of information and beliefs concerning the mayoral candidates. Intention was measured as the likelihood of voting for Candidate A on a 1-7 scale. Behavior was a self-report as to whether the respondent voted in the mayoral race and for whom. In that study, direct experience had a non-significant influence on I-B consistency when the amount of information was held constant. Amount of information moderated I-B consistency in both within and between-subjects' analyses. As the authors suggested, information can come from any source. This study means

that, *ceteris paribus*, indirect experience can produce higher I-B (or A-B) consistency than direct experience if more information is provided with the indirect experience.

In the another study in Davidson et al.'s (1985) work, direct experience was in the form of whether the respondent had had a flu shot in the past or not. Amount of information was the respondent's own opinion about how well informed s/he was about the flu shot on a 1-7 scale. Respondents also indicated their intention to have a flu shot during the year. The measure of behavior was whether they subsequently received a flu shot during the flu season. As in the first study, the amount of information had a significant effect on I-B consistency independent of experience. Contrary to the first study, direct experience moderated I-B consistency independent of the amount of information available.

Davidson et al. proposed that one reason for the differences between the vaccine study and the voting study was that the behaviors involved were different. In the voting study, important information concerning the mayoral candidate vote (e.g., candidates' positions on the issues) could be acquired outside of direct experience. In the vaccine study, statistics could be learned from indirect experience, but the concrete direct experience could contain "unique information" (p. 1197) important to behavioral response (e.g., whether there were side effects from the vaccine). Though the authors did not present it

in this way, this implies that the configuration of important attributes of an attitude object could determine whether experience would be a significant moderator of I-B or A-B consistency.

Direct experience makes behavioral information salient. Fazio and Zanna's (1981) second reason for DPE attitudes' strength was that direct experience is more of a behavior in itself than is indirect experience and thus the salience of behavioral information is stronger. In contrast, indirect experience is a description of an object, so the medium (e.g., video or writing) and object description information is more salient than information concerning behavior toward an attitude object. When behavioral information is salient during attitude formation, then an attitude is more likely to match behavior. If non-behavioral information is salient, attitude toward an object is more likely to be based on inputs less relevant to the behavioral decision.

The authors cited Fazio, Zanna and Cooper (1978) as support for this claim. In this study, half of the subjects were told to watch a videotape of a person playing with puzzles while the other half were told to watch and empathize with the person playing with the puzzles in the videotape. Behavior was measured as the order and the proportion of each type of puzzle which each subject chose to work during a "free play" situation. Subjects in the empathy group had the same information

available but their A-B consistency was significantly higher than the non-empathy group for the order measure ($r = .65$ vs. $.17$, $t(28) = 3.03$, $p = .01$) and for the proportion measure ($r = .70$ vs. $.53$, $t(28) = 1.71$, $p = .10$). The explanation Fazio and Zanna (1981) gave was that the empathy subjects had a different perspective and focused on the (imagined) behavior. Also,

Such behavioral information may be considered a more reliable guide to one's reaction to an object than an evaluation of a medium's description. That is, just as an observer considers knowledge of another's behavior to be the most indicative information concerning that individual's internal disposition, so, too, may a person perceive his or her own behavior to most reflective of his or her attitude (1981, p. 188).

The process of inferring one's attitude from one's behavior has been examined at length in the marketing literature concerning such behavior-inducing tools as coupons and product trial offers (see Scott, 1981, for a review). This latter type of information is behavioral information about the product and not inferred information about one's attitude. It seems unlikely that an inference from behavior could dominate negative product information for any significant length of time.

It is also true that there are variety of ways behavior can be expressed. Behavioral information concerning purchase of a product in a grocery store might not be relevant to a "behavior" in a restaurant. Routinized behavior in a store might not be relevant to an unusual dollar-off promotion in the same store. In

marketing, the behavioral information that DPE provides is not necessarily relevant to the purchase behavior the marketer desires. One can imagine how the taste of a luncheon meat (behavioral information) would not provide behavioral information concerning walking to the lunchmeat section, looking for the brand, choosing it over other brands, and dropping it into the shopping cart. Just because the person likes the taste of the lunchmeat doesn't mean that s/he will perform the above set of behaviors necessary to purchase. Fazio and Zanna's argument that direct experience makes important behavioral information salient assumes that the direct experience provided closely parallels the behavior of interest (e.g., actual purchase in a marketing context).

Accessibility. It should be noted that Fazio and Zanna's (1981) review lists attitude accessibility as the third reason for attitude strength and not as an attitude strength dimension akin to attitude confidence or attitude persistence. Fazio and Zanna's justification for their listing of accessibility as a reason for attitude strength is that increased attitude accessibility means that there are information "storage and retrieval differences" and that accessible attitudes are more easily retrieved from memory. Fazio and Zanna would be more precise in stating that "storage and retrieval differences" are reasons for attitude strength, and that accessibility is just one attitude strength dimension which results from these

differences. Fazio et al. (1989) view attitude accessibility as a "strength-related dimension" (p. 286).

In examining direct vs. indirect experience attitude accessibility, Fazio and Zanna describe Fazio and Chen's unpublished (1979) work showing that attitudes derived from direct experience are more accessible. Later empirical work by Fazio et al. (1982) is evidence that attitude accessibility is greater for direct than for indirect experience. Both of these works involved puzzles as the objects of interest with no marketing cues surrounding the object exposures. In a marketing context, Berger and Mitchell (1989) found that product attitudes were not significantly more accessible after DPE than after one, three or four exposures to AD ($p > .10$). The procedure used in that study is described later in this chapter. No empirical work has been reported in a marketing context supporting the idea that direct experience attitudes are more accessible than those derived from indirect experience.

Fazio's Model of the Attitude-Behavior Relationship

Fazio's later work (1986) presents a model of how accessibility of an existing attitude increases the consistency between attitudes and behavior. Fazio et al. (1989, p. 280) summarize this model in the following terms:

In brief, the model views behavior in any given situation as a function of the individual's immediate perceptions of the attitude object in the context of the situation in which the object

is encountered. "Perception" refers to the individual's current feelings about, or appraisal of, the object as experienced in the immediate situation. According to the model, attitudes guide such appraisals of the object, but only if they have been activated from memory upon observation of the object. Hence, the accessibility of the attitude from memory is postulated to act as a critical determinant of whether the attitude-to-behavior process is initiated.

The idea behind the model is that when an attitude is accessed, it leads to subjective perception of the object, thus influencing the perception of the behavioral event. This leads to a confirmatory bias in favor of the original accessed attitude. The sooner the attitude is accessed the sooner this subjective process begins and the more likely the behavior will match the original accessed attitude (A-B consistency).

In his 1986 work, Fazio's support for this role of accessibility in increasing A-B consistency was an empirical work by Fazio et al. (1982) that used videotape exposure to five puzzles. Attitude accessibility was measured using response-times to "yes-no" questions about the puzzle types. Subjects answered "yes" or "no" to the pairing of each puzzle type with two evaluative adjectives (e.g., interesting?). Elicitation of puzzle type interest on a 11 point scale was used as a measure of attitude. In an earlier experiment reported in the same work, repeating attitude elicitation increased attitude accessibility. The same behavior measures were used as in Fazio, Zanna and Cooper's work (1978) described earlier. The repeated

elicitation (higher accessibility) condition had a stronger attitude-behavior relationship than the single elicitation condition for the proportion of puzzles worked in a "free play" situation ($r = .47$ vs. $.22$, $t(77) = 2.04$, $p < .05$), but not for the order in which they were worked ($r = .48$ vs. $.37$, $t < 1$).

Fazio et al. (1989) can be interpreted as evidence that the choice of inexpensive food products was moderated by attitude accessibility. As a part of a psychology class, subjects were told that the experiment concerned a new way of measuring attitudes via a microcomputer (p. 282). Subjects responded to the adjectives "dislike and "like" for 100 "familiar and commonly available products" (p. 282) by pressing one of two computer keys that represented these two adjectives. The response time for each response was used as the measure of attitude accessibility. Subjects then gave a semantic differential evaluation on a 1-7 scale (extremely bad...extremely good) for those same products and answered some unrelated questions. Finally, the subjects were told to select and keep five of ten products on a table.

This study did not control previous exposure to the brands. As discussed earlier in this chapter, the amount of information available can increase A-B consistency. Some of the increased A-B consistency observed in Fazio et al.'s study might have been due to increased knowledge of the product and not attitude accessibility.

In Fazio et al.'s study, no marketing cues were present beyond the sheer fact that the products had real brand names and were in naturally occurring packages during the behavior measurement. Names of people or breeds of dogs could have had the same effect as brand names. The attitude measurement cover story could have removed the marketing cue, perceived intent to persuade. The authors' placement of the products in rows on a table should not be regarded as a marketing cue but as a matter of convenience. No marketing cues like price, a point-of-purchase display, an advertising stimulus or a cover story about manufacturer testing were present. Besides this nominally marketing-oriented study, no work in a marketing context has found that attitude accessibility increases attitude-behavior consistency.

An Expanded View of Attitude Strength

The basic idea behind Fazio and Zanna's (1981) review is that direct experience produces stronger attitudes that are more predictive of behavior. They listed a number of these dimensions of attitude strength and provided theoretical rationale or empirical work supporting these dimensions. In later work, Fazio and colleagues (Fazio, 1986; Fazio et al. 1989) claim that attitude accessibility is the important mechanism driving the means by which attitudes guide behavior. Fazio et al. (1989, p. 286) state

... we should note, as did Fazio and Williams (1986), what we view as the primary advantage of

focusing upon attitude accessibility as opposed to some other strength-related dimension... Unlike other indicants of attitude strength, the construct of attitude accessibility operates at an information processing level of analysis.... various identified moderators of the attitude-behavior relation may exert their impact because they reflect the strength of the object-evaluation association and, hence, the accessibility of the attitude (Fazio 1986).

It should be noted that information processing is a pivotal part of Smith and Swinyard's (1983, 1988) work linking belief confidence to attitude confidence and attitude-behavior consistency which has been described briefly and will be examined in depth later in this chapter. Smith and Swinyard did not emphasize or test the moderator variable of attitude accessibility.

Making the association of an object and its evaluation the only meaningful dimension of attitude strength is an oversimplification of the concept of attitude strength, given Raden's recent (1985) meta-analysis of attitude strength dimensions. Raden found that the intercorrelations between such attitude strength dimensions as certainty, importance and latitude of rejection were not high in most cases and that attitude strength is multidimensional. This would argue that object-evaluation association or accessibility is not the driving force behind these dimensions of attitude strength.

According to Raden,

the intercorrelations between dimensions are sufficiently robust in some instances to suggest the possibility of finding a parsimonious

underlying structure, but the nature of any such underlying structure has not yet been established (p. 323).

He also found that a number of these dimensions increase attitude-behavior consistency, but that "none... is clearly the most effective moderator" (p. 323). Fazio and colleagues' claims that attitude accessibility might be the important mechanism driving the means by which attitudes guide behavior is a bit myopic given that a number of these attitude-behavior moderators do not act in a monolithic manner (i.e., they are not all driven by accessibility). Accessibility is just one piece in the puzzle. A more complete view is gained by using a number of attitude strength variables in studying attitude-behavior consistency.

Attitude Extremity. Raden's (1985) notion of attitude strength includes attitude extremity with certainty, accessibility etc.. Smith and Swinyard (1983) have listed attitude confidence and attitude extremity as factors involved in higher order (stronger) affect derived from DPE. Attitude extremity should not be "lumped together" with attitude confidence or other attitude strength variables, because it can be entirely independent of attitude strength. Attitude extremity involves the identity of the attitude and not whether the attitude is strongly held. For example, it is easy to imagine how a person could have a very confidently held attitude toward a mediocre local brand of beer. This confidence would be

enhanced by the fact that the person might have consumed the brand often because it was a local brand. In such a case, the brand attitude would be in the middle, but the confidence in the attitude would be high. This would make the two measures of attitude "strength" conflict in that they indicate high attitude confidence but low attitude extremity.

In other treatments (e.g., Zanna and Fazio, 1982), evaluative and non-evaluative aspects of attitudes have been separated. It is more accurate to say that attitude extremity is an evaluative dimension and attitude confidence, accessibility, persistence etc. are non-evaluative strength dimensions. Future reference to higher order or strong attitudes will refer to these non-evaluative dimensions and not to attitude extremity.

Summary

The hypothesis that attitude is a better predictor of intentions and behavior after direct experience than after indirect experience is consistent with empirical work in both marketing (Berger and Mitchell, 1989; Smith and Swinyard, 1983) and non-marketing settings (Fazio and Zanna, 1978b; Regan and Fazio, 1977). This relationship was the centerpiece for Fazio and Zanna's (1981) review, which concluded that direct experience increases the attitude strength dimensions that increase A-B consistency. The most convincing evidence for this assertion are findings that attitudes derived from direct

experience are more confidently held (e.g., Berger and Mitchell, 1989; Fazio and Zanna, 1978b; Smith and Swinyard, 1983) and are more accessible (e.g., Fazio et al., 1982) than attitudes derived from indirect experience. In turn, attitude confidence has been linked to increased A-B consistency (e.g., Sample and Warland, 1973; Fazio and Zanna, 1978 a,b; Smith and Swinyard, 1983), as has attitude accessibility (e.g., Fazio et al., 1982; Fazio et al., 1989).

As observed earlier, Fazio and Zanna's (1981) review of the strength of direct experience attitudes omitted the natural antecedent of belief strength. They mentioned that direct experience might make more information available, but they also admitted that in some cases, indirect experience could provide more information. Fazio and Zanna also asserted that behavioral information is more salient with direct experience. It should be noted that not all behavioral information is necessarily relevant to the beliefs which form an attitude's cognitive structure (e.g., behavioral information about ordering from a menu being different when on a date vs. when one is alone). In summary, the authors pointed out that direct experience can provide more information but did not specify the character of this information or the relevance of that information. More information would not necessarily make important beliefs stronger.

Fazio and colleagues' work is valuable in explaining how direct and indirect experience attitudes guide behavior. In their work, the cognitive effects of direct and indirect experience exposure were not examined in depth. The cognitive antecedents and formation of attitudes derived from advertising and DPE are treated in the following sections.

Media Communication Effects in a Marketing Context

The studies cited in Fazio and Zanna's (1981) review refer to direct experience with situations, events, tasks and people as well as with objects. The theoretical grounding and results are almost always applicable to direct experience with products especially when "product" is defined broadly as a bundle of benefits (e.g., the benefits of concerts, video games and legal advice). However, operationalizations of indirect experience in the social sciences must be applied to advertising with caution, because they do not have the unique constellation of cues associated with a marketing context.

As discussed in Chapter 1, advertising has an obvious intent to persuade. It often has a more focused and concise presentation (e.g., beer ads which focus on the attributes, "tastes great" and "less filling"), because advertising space and time are generally expensive. The sheer number of advertisements in consumers' lives also decreases their motivation to process them. In major

works cited by Fazio and colleagues, indirect experience was operationalized by subjects being told how to do puzzles (e.g., Regan and Fazio, 1977; Fazio and Zanna, 1978b; Fazio et al., 1982; Fazio, Powell and Herr, 1983) and students naturally hearing about aspects of a university housing crisis before the study (Regan and Fazio, 1977). Because the operationalizations of indirect experience in social psychology are so removed from the typical advertisement exposure, conceptual replication of the above findings in a marketing context is valuable.

The following section deals almost exclusively with studies in a marketing context that often replicate earlier empirical work in the social sciences concerning attitudes derived from direct and indirect experience. This body of work not only replicates but also extends past theory and empirical findings by examining belief strength and the effects of involvement.

Hierarchy of Effects

In the marketing literature, a classic ordering of advertising's effects was described by Lavidge and Steiner (1961) who proposed the ordered model: preference--conviction--purchase. They summarized the model using the terms cognition--affect--conation (behavioral response). This cognition--affect--conation model was applied to direct experience learning by Smith and Swinyard (1982). Recall that Fazio and Zanna's (1981) work was limited in

that it concentrated on only the affect--conation (attitude-behavior) link.

Palda (1966) showed some of the methodological and substantive weaknesses of this hierarchy's ordering. A number of studies tested this hierarchy (see Smith and Swinyard, 1982, for a review and discussion). Two hierarchies which emerged were the "learning" hierarchy of cognition-affect-conation (i.e., thinking, feeling and then doing) and the "low involvement" hierarchy of cognition--conation--affect (i.e., thinking, doing and then feeling).

Smith and Swinyard's (1982) Integrated Information Response Model (see Figure 1) describes the effects of AD and DPE using these two hierarchies. The low involvement hierarchy requires product trial (i.e., DPE) in order to elicit strong affect and commitment while the learning hierarchy "skips" the product trial step. When a consumer is in a low involvement mode, advertising usually does not produce strong attitudes that predict behavior until after the consumer tries the product (cognition--conation--affect). In contrast, when the consumer is in a high involvement mode, the individual learns about the product, has an affective response and then makes a conative response in the form of actual behavior or commitment consistent with his or her earlier cognitive and affective response. Smith and Swinyard's model specifically looks

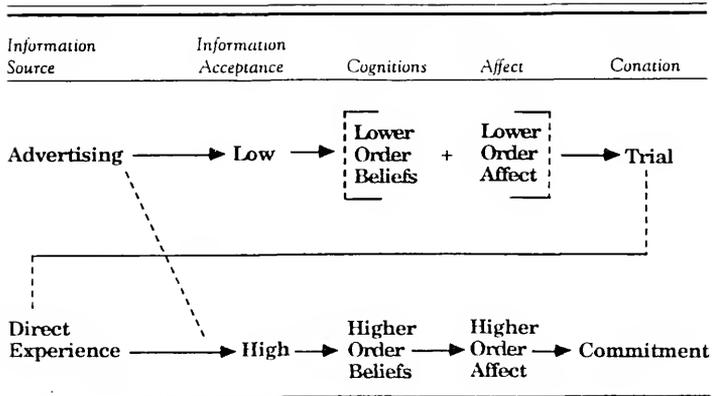


Figure 1. The Integrated Information-Response Model
(Smith and Swinyard, 1982)

at the effects of advertising vs. product trial (DPE) on product beliefs, attitudes and behavior.

Though product trial is often learning under low involvement, Smith and Swinyard assert that trial leads to "higher order" beliefs and "higher order" affect (e.g., beliefs and attitudes held with more confidence) which in turn lead to increased attitude-behavior (A-B) consistency. In their model, advertising usually leads to "lower order" beliefs and affect. According to the authors (1982, p. 84),

... because the consumer lacks the vested interest normally attributed to external sources, information gained through direct experience is not subjected to the same level of counterarguing, source derogation, message rejection, and discounting. Accordingly the resulting beliefs are stronger and more confidently held, generating a powerful information base for attitudinal development. This analysis indicates that it would normally be difficult for advertising to create higher order beliefs. Direct experience, on the other hand, frequently generates beliefs that are accepted at higher order levels.

They allow for some advertising to produce higher order beliefs and affect, but do not elaborate as to when and how this could occur in the absence of product trial.

Empirical Tests of Smith and Swinyard's (1982) Model

In a marketing context, Smith and Swinyard (1983, 1988) tested their (1982) model concerning the effects of advertising vs. DPE. In Smith and Swinyard's 1983 work, each subject was told that the study was a study of snack foods. There was a disclaimer of any concern with the subjects' attitudes toward the product or any connection

with the product advertiser. Subjects were given two pages of questions concerning snack foods in general before being given the actual treatment which consisted of looking at the manufacturer's actual ad for three minutes or a taste test of the snack food (in a bowl) for three minutes.

They found that sampling produced greater attitude confidence than advertising, thus replicating Fazio and Zanna's (1978 a,b) results. Also, affect (attitude) derived from DPE was more extreme and attitude-behavior consistency greater for DPE. Behavior consisted of subjects indicating how many reduced price packages of the snack they would like to buy.

It is unfortunate that this experiment contained a serious confound regarding the information content of the AD and DPE stimuli. The AD stimulus was not pretested and designed to be equivalent to DPE exposure. Instead, the manufacturer's ad was used. Also, the subjects were not allowed to see the package for the snack food used in the study. This "naked DPE" may have focused attention on a limited range of important product attributes and at the same time omitted information regarding important attributes including price and ingredients. If the ad happened to emphasize less positive attributes not available during DPE (e.g., price, ingredients) or did not treat the positive attributes available during DPE (e.g., cheese-like taste, crunchiness), these differences in the

information content of the two media could have easily moderated affective response to AD when compared to DPE.

Berger and Mitchell's (1989) work addressed this methodological problem in testing the effects of sampling vs. advertising. In pretests, they attempted to equate the information available in AD with the information available in direct experience for five candy bars. Subjects were asked to describe their thoughts about the product, its taste and how it made them feel. Existing ads and responses to the pretests were used in constructing the final ads used as stimuli.

The 104 subjects in their study tasted five different candy bars in the form of bite-size pieces with a whole packaged candy bar beside them or they observed a slide of a print ad one, three or four times. Each ad exposure was for 15 seconds for each of the five candy bars. The authors did not report a set time period for DPE so it is assumed that this was not controlled. It is extremely likely that subjects in the DPE condition exposed themselves to the product for more than 15 or 45 seconds especially if they had more than one bite-size piece and looked at the package. As a reference point, Smith and Swinyard (1983) exposed subjects to the snack food or its ad for three minutes.

The procedure following this manipulation consisted of a seven minute filler task, semantic differential attitude ratings and confidence in those ratings, a five

minute filler task, timed attitude responses that measured attitude accessibility, and then demographic and recent candy bar use questions. Subjects were paid for their participation and chose what candy bars they wanted as a measure of behavior toward the product. The type and number of candy bars taken was noted without the subjects' knowledge.

Contrary to empirical work by Fazio et al. (1982), Berger and Mitchell found that attitudes derived from DPE were not significantly more accessible than those derived from a single AD exposure, from three AD exposures or from four AD exposures (each had $p > .10$). Consistent with empirical studies reviewed earlier (Fazio and Zanna, 1978b; Smith and Swinyard, 1983), attitudes were more confidently held after DPE than after one 15 second exposure to AD ($p < .01$). The mean differences between DPE and the three and four AD exposure conditions were not significant. When compared to DPE, attitude-behavior consistency was significantly lower for single AD exposure ($p < .05$,) but not for three AD exposures or for four AD exposures.

Berger and Mitchell's empirical results did not support the Fazio et al. (1982) findings of greater accessibility of direct experience attitudes. This is especially noteworthy in the 15 second AD exposure condition in Berger and Mitchell's study, because subjects

could be exposed to DPE for so much longer than AD (tasting the bite-sized piece and reading the package for as long as they wanted vs. viewing a print ad slide for 15 seconds).

The Cognitive--Affective Link

Both Smith and Swinyard (1983) and Berger and Mitchell (1989) examined the affective--conative (attitude--behavior) link in the traditional cognitive--affective--conative hierarchy. Smith and Swinyard (1988) and Marks and Kamins (1988) tested the cognitive--affective link. Using their (1982) model, Smith and Swinyard (1988) predicted that product belief strength and confidence would be greater for DPE than for advertising. They used the same dataset as their 1983 work. "Belief strength" was operationalized as the likelihood that the same snack food product had "X" attribute.

The belief strength prediction was supported for four out of six attributes and the belief confidence prediction was supported for five of six attributes. The attribute questions concerned the product's crispiness/crunchiness, spiciness/seasoning, flavor/taste, aftertaste, filling snack, and "real cheese". Recall that no attempt was made to equate the information available in the two media for this dataset.

Marks and Kamins (1988) also used Smith and Swinyard's (1982) model in testing the prediction that beliefs and attitude derived from DPE would be more

confidently held than those derived from AD exposure. Subjects were exposed to a ball point pen or an advertisement for a two-minute period. Subjects were asked their confidence in attribute beliefs concerning holding comfort, ink flow consistency, overall writing performance, styling and quality construction. The average of these responses was used as the measure of belief confidence. Though Marks and Kamins' experiment had a large sample size ($n= 88$ for the two treatments together), they found that DPE produced only marginally significant results supporting the above belief prediction ($t= 1.56, p \leq .07$) and the attitude confidence score prediction ($t= 1.61, p \leq .06$).

As in most other studies of AD vs. DPE, there was no attempt to equate the information available in AD and DPE exposure. The black and white ad used in their study was constructed based on pretest data that yielded the important attributes used in purchase. Such data would not necessarily yield what typical subjects thought the product was really like during DPE.

Belief Strength

In their empirical work Smith and Swinyard (1983), operationalized "higher order" affect as attitude confidence and attitude extremity, but noted that other strength variables including accessibility, resistance to attack and persistence over time may be involved. For belief variables, Smith and Swinyard (1988) used belief

confidence and the likelihood that a product possessed a particular attribute. No empirical work has used other belief strength variables in testing AD vs. DPE effects besides those used in Smith and Swinyard's (1988) work. Given Raden's (1985) separation of attitude strength variables discussed in this chapter, it is possible that various belief strength measures will not perform identically.

Smith and Swinyard (1982) compared the effects of advertising and DPE by linking media type (AD or DPE) to belief strength, which in turn was linked to attitude strength and A-B consistency. In their model, advertising usually leads to lower order beliefs than DPE. It provides that advertising can lead to higher order beliefs, but it does not establish the conditions when this would be expected. Exploration of these conditions is the topic of the next section.

Types of Beliefs Derived From Advertising vs. DPE

In the economics literature, Nelson (1970) introduced the distinction of search vs. experience goods which is also useful for classifying the different attributes of a product (Nelson, 1974). One can gain veridical knowledge about experience attributes of products only in using the product (i.e., DPE). Nelson actually employed "after purchasing" instead of "in using". Purchase is not necessary before experiencing a product (e.g., samples in

the mail, test driving a car); therefore Nelson's use of "after purchasing" is too limited for the purposes of understanding the effects of DPE.

In contrast to experience attributes, veridical information about search attributes of a product can be discovered by consulting first-hand or second-hand sources like advertising. Examples of search attributes are the number of calories, ingredients, price and manufacturer of a candy bar.

The search-experience distinction is important because the multisensory aspects of a new product (i.e., experience attributes) can be ascertained only by using the product (i.e., DPE). For example, advertising is unable to present such experience attributes as the exact level of sweetness (taste), consistency (touch), aroma (smell), and crunchiness (hearing and touch) of a candy bar. There may even be consumer suspicion concerning the visual aspects of a candy bar in an ad, because film images can easily present a distorted two-dimensional image of a three-dimensional product.

By nature, advertising presents only one view of the product, one that happens to be controlled by the marketer. Nelson (1974) proposes that advertising holds little information value for a product dominated by experience attributes (an "experience good"), because the experience attributes can only truly be known from using the product and not from a second-hand (and biased) source

like advertising. With AD exposure, one can thus be aware of the product but not have enough credible information about it to risk purchase. DPE is the most definitive mode of information search concerning experience attributes of a product.

PROPOSITION 1: Direct product experience is more effective than advertising in presenting experience attribute information.

"Effective" means that the medium focuses on that information and conveys that information in a clear manner. This could be operationalized as producing belief confidence and accessibility (i.e., quick retrieval from memory).

On the surface, Proposition 1 may appear tautological because experience attributes are defined as attributes whose exact level can only be known after using the product (i.e., DPE). It is possible for advertising to communicate information concerning experience attributes, however. Advertisements use many devices including metaphor, imagery and facial expressions to "describe" such multisensory attributes as taste, smell and touch; however, the exact level of such attributes cannot be fully communicated by advertising. A significant difference between AD and DPE in communicating experience attributes (e.g., confidence in experience attribute beliefs) can be tested, therefore this proposition is not a strict tautology.

Search Attribute Information

Search attribute information in an advertisement is reasonably reliable, because:

If the advertised properties of the product differ from the actual properties, the consumer will know about the difference prior to purchase in the case of search qualities. This reduces considerably--but not entirely--incentives for misleading advertising... there are costs to the advertiser of misleading advertising: he suffers a decline in his credibility for future advertisements and pays the costs of processing nonbuying customers. Because of these costs and the relative unimportance of the sources of misleading advertising, consumers can have some confidence that the advertising of search qualities bears a close relation to the truth (Nelson, 1974, p. 730).

In contrast to experience attributes, it is easier to define and perhaps prosecute false search attribute claims. For example, search attributes like ingredients and number of calories can be verified objectively by independent sources across situations. In contrast, when a candy bar ad says it is "sweet but not too sweet", this and other experience attributes are a subjective matter of personal experience. One reason that search attributes can be ascertained veridically from second-hand sources is that they are characterized by less subjectivity than experience attributes.

The advantages of DPE in presenting experience attributes were described above. The following section attempts to show DPE's disadvantages in presenting search attributes by first examining evidence concerning the different effects of abstract vs. concrete information.

Concrete vs. Abstract Information

In psychology, the concrete vs. abstract dimension of information has been studied in the context of differential attention to information (see Taylor and Thompson, 1982 for a review). Concreteness can be defined as "belonging to immediate experience of actual things or events" (Webster's, 1967, p. 172). With "abstract" as the opposite of "concrete", the use of the concrete vs. abstract contrast is roughly analogous to the experience vs. search contrast.

The abstract vs. concrete contrast does not perfectly correspond to the search vs. experience contrast in that some search attributes are more concrete than others (e.g., price could be considered more concrete than the number of calories). Some experience attributes are less concrete than others (e.g., the sturdiness of a chair could be considered less concrete than its comfort). Overall, however, the difference in concreteness between the search and experience attribute groups are greater than the differences within the groups. Experience attributes generally are more concrete than search attributes, because they directly appeal to the five senses.

There is substantial evidence that stimulus concreteness enhances memory (see Paivio, 1979 for a review). Reyes et al. (1980) gave subjects abstract or concrete prosecution and defense information concerning

someone accused of drunk driving. Subjects remembered a greater proportion of the vivid arguments than the abstract ones. Also, the information that was remembered better had more influence on the judgment of guilt or innocence.

Borgida and Nisbett (1977) demonstrate that people are more willing to use concrete, multisensory information than abstract, less sensory oriented information. Their study pitted written academic course ratings and comments (abstract information) against the same ratings and comments given "in person" by actors (concrete information). Subjects used the "in person" information course information more than the course ratings.

In explaining these results, Borgida and Nisbett asserted that information gained through one's own senses seems more relevant and valid because one has acquired it oneself:

It may be that the latter sort of information [e.g., multisensory information from DPE] remains in thought longer and triggers more inferences because of its greater dramatic interest and salience (p. 269).

This is reminiscent of Fishbein and Ajzen's (1975) assertion that beliefs derived through one's own five senses are more reliable and held with more confidence.

Nisbett et al. (1976) state that we are "creatures of concreteness", and that often abstract information does not persuade or move people to action despite the fact that it is logically compelling and very applicable.

Instead, concrete modes of expressing information are much more persuasive and can spur stronger inferences despite the fact that they might not be as logically sound.

In demonstrating the above, Nisbett et al. include real world examples where people have not been spurred to action with facts and statistics, but rather by specific events consistent with those facts and statistics. These examples are valuable in showing that the more compelling nature of concrete information is not limited to the laboratory:

An early version of the Green Revolution was made possible in the early 1930's by advances in agricultural technique. The government duly proceeded to inform the nation's farmers of these techniques by means of county agricultural agents spouting statistics and government pamphlets and sat back to await the glowing reports of increased crop production. No such reports followed and it soon became clear that farmers were not converting to the new techniques. Some clever government official then set up a program whereby government agricultural agents moved in on selected farms and cultivated the crops along with the farmers, using the new techniques. Neighboring farmers watched the crop results and immediately converted to the techniques (p. 132).

They cite another example where cancer detection clinics' long waiting lists in the mid-1970's were attributed to some very concrete examples of people contracting cancer. The situation with long waiting lists:

... was not because of the issuance of new statistics by the Surgeon General, AMA or any other organization. The long waiting lists date(d) from the time of the mastectomies performed on Mrs. (Gerald) Ford and Mrs. Rockefeller (p. 132).

In a marketing context, MacKenzie (1986) used ads as stimuli in an experiment studying the ability of concrete vs. abstractly worded messages to attract attention. He manipulated concreteness using more concrete words and specific detail (e.g., "many watch breakdowns are due to water getting into the case" vs. the more concrete "3 out of 4 watch breakdowns are due to water or moisture getting into the case" (p. 183)). Subjects were asked to look at ads for different products in a notebook without turning back to previous ads and to push an event recorder button every time they finished looking at an ad. The last ad was the manipulated ad in all of the conditions.

Nine possible influences on attention were measured: ad text concreteness, picture relevance, repetition, need for cognition, product knowledge, and four different measures of attribute importance for the main attribute of interest (water resistance). Of the nine possible influences on attention, MacKenzie concluded that only concreteness influenced attention (p. 186). Three measures of attention to the attribute of interest were employed: time-based, cognitive-response based and subjective-estimate-based. The attribute of interest gained more attention in the concrete ads than in the abstract ads.

Advertising's Strength in Presenting Search Attributes

Based on the above research, one could infer that when multisensory experience attribute information is

available, search attribute information pales in comparison, because it is less concrete. The idea is that when an abstract search attribute input and a concrete experience attribute input are presented at the same time, one's attention will be drawn toward the latter and not to the former. In the "Green Revolution" example above, it is likely that the farmers would have paid more attention to the neighbor crop results than the statistics if both had been present.

It is proposed that AD is superior to DPE in presenting search attribute information, because multisensory inputs attract the consumer's attention and thought during DPE but not during AD. When both search and experience information are available during DPE, attention is drawn to experience attributes because of their greater perceptual salience. In contrast to DPE, with AD exposure, there is less experience attribute information to distract from the search attributes. A second basic proposition results from the above discussion:

PROPOSITION 2: Advertising is more effective than direct product experience in presenting search attribute information.

As in Proposition 1, "effective" communication of search attributes means that the medium focuses on that information and conveys that information in a clear manner.

The Credence Classification of Product Attributes

Darby and Karni (1973) added the "credence" classification to the search and experience classifications of product attributes. Credence attributes cannot be evaluated by inspecting or using the product. One must believe (hence "credence") that the product has the claimed credence attributes. In the case of life insurance, for example, one cannot (or at least should not try to) experience this product to test the product's benefits. Because of the relative scarcity of credence attributes compared to search and experience attributes, the present research will concentrate on search and experience attribute information.

It should be noted that all three types of information can be present in advertising and DPE. Credence and experience claims may appear on packaging materials and even on the product itself. Whether they are attended, comprehended and believed is another matter.

Search vs. Experience Research In Economics

Nelson (1974) asserted that for experience goods (products dominated by experience attributes), valid information about product quality can be gathered only from the amount of advertising and not from its content. In contrast, for search goods, the content of one or two ads can provide genuine search attribute information. Because of this contrast, he proposed that there is an

incentive to advertise experience goods more than search goods.

Nelson (1974) tested the above proposition and found that heavy advertising of experience goods exists despite the fact that advertising is not strong in presenting experience attributes. He presented the ad/sales ratios for 12 search goods (e.g., furniture, costume jewelry) and 28 experience goods (e.g., drugs, dairy products and books). The ad/sales ratios were higher for the experience goods. Despite the ease of communicating search information compared to experience information in advertising, proportionally more advertising dollars were spent on experience goods. Nelson's analysis "strongly suggest(ed) that the information content of advertising for experience goods goes far beyond the relation of brand to function" (p. 740), this "function" being how the product performs. Increased advertising is valuable in promoting an experience good's reputation but is not informative about the level of particular experience attributes in the product. For search goods, increased advertising is not as necessary because "any remembered advertising message beyond the first is redundant" (Nelson, 1980, p. S164).

Nelson's 1978 work and his 1980 re-interpretation of same examine the relation of the ad/sales ratio to a variable "R" that represents the relative importance of direct experience and search (indirect experience) in

acquiring product information (Nelson, 1980, p. S163). Higher ad/sales ratios were associated with higher R values, which can be interpreted as evidence that when DPE is more important relative to AD the quantity of advertising is increased. The explanation for this relationship is open to question. There may, for example, be more advertising for experience goods because advertisers think it is necessary and not because consumers actually gain more (reputation) information from the increased number of ads.

The above empirical research in economics supports the search vs. experience distinction by showing differences between search and experience goods for various aggregate variables (e.g., the ad/sales ratio for all consumers in a product class and not an ad/sales ratio for a controlled group of consumers of a particular brand). The results were not measured at the individual consumer level and were correlational in nature. Establishing causality is difficult in such cases. Nelson's research also dealt more with reputation information and not specific product attribute information. He did not empirically examine the communication of specific experience and search attribute information within media exposures. Nelson's empirical research thus addresses interesting questions concerning the effects of the sheer amount of advertising for search

vs. experience goods but not the advertisements' specific content.

Search vs. Experience Research in Marketing

The empirical studies concerning the search and experience contrast in the marketing and consumer behavior literatures have not dealt with individual consumer responses to particular search or experience attribute claims. In a study of information source importance, Orsini (1982) defined "guidance" sources as those independent of the marketer and the consumer. These were hypothesized to be more important for experience goods than for search goods. The idea was that experience goods were more difficult to evaluate than search goods. Using seven search goods and eight experience goods, Orsini found that the type of product (search or experience good) played a significant role in determining the importance of an information source.

The goal of Ford, Smith and Swasy's (1988) paper was to examine the usefulness of the search, experience and credence (SEC) categorization scheme. Using a sample of 100 ads from women's magazines, three verifiable claims in the form of complete sentences were taken from each advertisement wherever possible. When complete sentences were unavailable, a declarative sentence was constructed. Using the SEC classification, three of the four female judges agreed on the categorization of 83% of the 198 ad claims used. All four judges agreed on 69% of the

experience claims, 59% of the search claims and 46% of the credence claims.

It should be noted that this study used the SEC classification scheme for ad claims in all of their complexity. Ford et al. noted that this created problems when there were multiple claims in one statement (e.g., "an exquisite blend of wine and the choicest herbs and spices" p. 242) and hyperbole that consumers discount (e.g., "provides unmatched excitement" p. 242). Though using the SEC scheme had some problems in their study, it produced an acceptable judgment agreement rate. It is likely that categorizing an ad's complex statements and/or claims would have more problems than classifying a simple list of product attributes.

In a later work, Ford, Smith and Swasy (1990), listed simple claims taken from advertisements with the brand name removed (e.g., "'XX tires will last for 100,000 miles'" (p. 436)). A group of experts and non-experts categorized the claims and then subjects categorized the claims. Overall, these two groups had 85% agreement for the search claims, 77% agreement for the experience claims and 84% for the credence claims. Adult consumers were significantly more skeptical of experience attribute claims than search attribute claims, but there was no significant difference between credence and experience claims for this dependent variable. In testing these two differences, the subjects' own categorization was not

used. It should be noted that real marketing stimuli were not present. AD, DPE and their constellation of cues were not represented in this study.

The SEC framework has been used to classify product attribute, product classes and ad claims, however it has not been used to examine the the effects of AD and DPE on search, experience and credence attribute beliefs. This would include the effects of search and experience attribute information on the individual consumer's beliefs, attitudes and behavior. The SEC framework can be used to qualify predictions and results in existing works that examine the communication effects of AD and DPE.

An Important Contingency For Previous Theories of DPE

The previous discussion explored the information DPE provides in contrast to advertising. It was proposed that DPE is more effective than AD in presenting experience attribute information, while AD is more effective than DPE in presenting search attribute information. The effective communication of information means that beliefs derived from that information are stronger. Smith and Swinyard's (1982) model stated that advertising usually leads to lower order (weaker) beliefs and affect. They allowed that some advertising produces strong beliefs and affect, but did not elaborate as to when and how this could occur.

Nelson's search vs. experience contrast is valuable in qualifying research on indirect and direct experience (e.g., Berger and Mitchell, 1989; Fazio and Zanna, 1981;

Marks and Kamins, 1988; Smith and Swinyard, 1982, 1983, 1988). If the preponderance of important product attributes are of the experience type, advertising should produce lower confidence in beliefs and attitude than DPE (e.g., for pop music albums, popsicles, shampoo).

In contrast, if the important product beliefs are of the search type, as with a bolt of cloth's price, color, fabric content, weight and number of threads per inch, there would be no reason to disbelieve an advertisement's claims. Beliefs derived from such an ad's presentation could be held with high confidence (i.e., "higher order" beliefs). In addition, giving a person the bolt of cloth to directly experience might distract him or her from encoding and learning that the product has those search attributes. This is based on the development of Proposition 2 which stated that the rich experience attribute information from DPE distracts from the search attribute information. Most beliefs and, hence, attitude concerning that product might be held with little confidence, even though they were derived from DPE exposure. This distraction effect is not present during advertising exposure so advertising is more effective than DPE in presenting search attributes.

As reviewed earlier, Smith and Swinyard (1988) predicted that product belief strength and confidence would be greater for product trial (DPE) than for advertising. "Strength" was operationalized as the

likelihood that the snack food product had attribute "X". The strength prediction was significantly supported for four of six attributes and the confidence prediction was significantly supported for five of six. The attributes used were crispiness/crunchiness, spiciness/seasoning, flavor/taste, aftertaste, filling snack, and "real cheese". A majority of the attributes were experience attributes (the first five of the six).

Smith and Swinyard's (1988) empirical results were consistent with the two propositions described earlier in this dissertation if one reanalyzes their data. Belief strength was significantly higher after DPE for four of five of the experience attributes. Belief strength was higher after AD than DPE for the one search attribute ("real cheese", $t = 1.91$, one-tail $p < .03$, $df = 78$). All the experience attribute beliefs were significantly more confidently held after DPE than after AD. The one search attribute belief was more confidently held after AD exposure ($t = 1.27$, one-tail $p < .10$, $df = 78$).

Using Smith and Swinyard's (1982) model, Marks and Kamins (1988) also predicted that beliefs and attitude derived from DPE with a ball point pen would be more confidently held than those derived from AD exposure. The attribute beliefs which the authors tapped were holding comfort, ink flow consistency, overall writing performance, quality construction and styling. All but the last of these five attributes could be considered

experience attributes. If this were true, the product had a larger experience attribute component.

As reported earlier, Marks and Kamins found that DPE produced only marginally significant results supporting the above belief prediction. The fact that there was at least one search attribute among the attributes could have contributed to the marginal significance. The authors did not report the differences in belief confidence for AD vs. DPE for each of the individual product attributes. Such an analysis might reveal a different effect of AD and DPE on the search attribute's belief confidence vs. the experience attributes' belief confidence.

Conclusion

A fundamental mechanism being examined in Propositions 1 and 2 is the effect of media on the attention to particular product attributes. Attention ultimately has effects on the communication of product information, the processing of that information and the formation of attitudes, intentions and behavior based on that information. When information has not been attended, it creates weak or non-existent beliefs that lead to weakly held attitudes which are less predictive of behavior. DPE directs attention toward experience attributes and AD directs attention toward search attributes. In addition, AD cannot effectively present the exact level of experience attributes.

Using Propositions 1 and 2, one can predict that DPE produces stronger experience attribute beliefs while AD produces stronger search attribute beliefs. The addition of the search vs. experience contrast in Propositions 1 and 2 provides contingencies for when predictions about DPE superiority can be expected to hold true.

Restating the important contingency proposed earlier, direct experience is not necessarily superior to indirect experience (AD) in presenting product information. Beliefs and attitudes can be stronger (e.g., higher accessibility and confidence) after advertising depending on the attribute mix inherent to the product. If a product has a preponderance of search attributes, it is likely that DPE will not produce stronger beliefs and attitudes. Instead, AD is more conducive to effective presentation of those attributes.

The distribution of object attributes in previous studies of direct and indirect experience effects has not been examined using the search, experience and credence (SEC) framework, so it is not surprising that generally, the stimuli used have not represented all three categories. With a large experience attribute component, the puzzles (Fazio et al., 1982; Fazio and Zanna, 1978b; Regan and Fazio, 1977), participating in psychology experiments (Fazio and Zanna, 1978a) peanut butter brands (Wu and Shaffer, 1987) and housing crisis (Regan and Fazio, 1977) used in important social psychology studies

of the area would naturally be more effectively presented by direct experience. In marketing, the snack foods (Berger and Mitchell, 1989; Smith and Swinyard, 1983, 1988) and ball point pen (Marks and Kamins, 1988) used in studies of AD vs. DPE have had a significant experience attribute component. Using such stimuli with a large experience attribute component would naturally lead to stronger beliefs and attitudes for direct experience than otherwise.

Davidson et al. (1985) used the idea that direct experience provides unique information for some behavior decisions but not for others to explain the fact that type of experience (indirect or direct) had a non-significant influence on intention-behavior consistency for one type of behavior (voting for a candidate) but not for another behavior (being vaccinated) (see sub-section Availability of more information in this chapter). This supports the idea that DPE might not be as superior to AD as previous works have predicted.

No previous work contrasting the effects of indirect experience (AD) and direct experience (DPE) has considered this search vs. experience contrast. In the past, the conventional wisdom has been that direct experience is usually superior to indirect experience and never inferior. The next step is to determine if advertising can actually be superior to DPE in presenting search attributes.

CHAPTER 3

EXPERIMENT I

Introduction

Chapter 2 introduced two propositions concerning media effects on the communication of product information. Proposition 1 stated that DPE is more effective than AD in communicating experience attribute information. In contrast, Proposition 2 stated that AD is more effective than DPE in communicating search attribute information. With these propositions in mind, Experiment I uses dependent variables indicating effective communication of attribute information and belief strength derived from that information. The basic idea behind the study is that effective communication of product information affects a consumer's beliefs about the product which in turn affect attitude strength. Such beliefs are more accessible, accurate, confidently held, and persistent in memory than otherwise.

Experiment I primarily deals with the effects of two media on belief and attitude variables. This reflects the approach of Smith and Swinyard's (1982) Integrated Information Response Model. In their model, sampling (DPE) produces "higher order" (stronger) beliefs which in

turn lead to "higher order" attitudes which in turn lead to increased A-B consistency. In contrast, advertising usually produces "lower order" beliefs, "lower order" attitudes, and less A-B consistency. Smith and Swinyard thus added the antecedent of belief strength to Fazio and Zanna's (1981) analysis of attitude strength. Smith and Swinyard did not distinguish between search and experience attributes and their model did not predict that beliefs derived from advertising ever could be stronger than those derived from sampling.

In their empirical work, Smith and Swinyard (1988) concentrated on belief confidence and the likelihood of attribute possession, but they did not examine other belief strength variables like accessibility and persistence in memory. Given Raden's (1985) conclusions regarding the attitude strength variables discussed in Chapter 2, it is possible that various belief strength measures will not perform identically.

In Chapter 2, issues concerning the strengths of indirect and direct experience attitudes were examined in depth. Fazio and Zanna's review of the strength of direct experience (1981) did not examine the logical flow of belief strength to attitude strength and attitude-behavior (A-B) consistency in explaining how DPE attitudes are more predictive of behavior. Experiment I examines the antecedent belief strength dimensions leading to attitude

strength as well as two important attitude strength dimensions.

Hypotheses

A number of testable hypotheses can be formed using the two propositions which were described in Chapter 2. In the following hypotheses, AD exposure is predicted to differ from DPE exposure in its effects on a range of cognitive and attitudinal variables. The hypotheses are in two groups; the first six concern media effects on cognitive or belief variables, with specific emphasis on the search vs. experience attribute distinction. The remaining hypotheses involve media effects on attitude and behavior variables.

The hypotheses are based on an assumption that DPE and AD have been made as equivalent as possible in information content concerning a product conducive to multisensory experience (the "conducive to multisensory experience" assumption is discussed later in this chapter). Search attributes are easily equated for AD and DPE because an ad can repeat the information on a package. Completely equating AD and DPE on experience attributes is difficult if not impossible. Though an ad cannot communicate the exact level of experience attributes, it can present opinions and other claims concerning them (e.g., "it tastes sweet but not too sweet", "it has the chewiness of caramel", "people preferred the taste of

(product 1) over (product 2), three to one). The question is whether such claims communicate enough information and whether they are credible.

Interaction of Media and Attribute Type for Cognitive Variables

Proposition 1 in Chapter 2 proposed that DPE is more effective than AD in presenting experience attribute information. Proposition 2 proposed that AD is more effective than DPE in presenting search attribute information. This can be interpreted as asserting that DPE provides more experience attribute information than AD per unit of time (i.e., the time spent consuming the product vs. the time spent viewing an ad), and that AD provides more search attribute information than DPE per unit of time.

In a discussion of Nisbett and colleagues' work (Nisbett et al., 1976; Borgida and Nisbett, 1977), Chapter 2 argued that during DPE, the consumer focuses more on experience attributes than on search attributes. It thus follows that, with DPE, the consumer thinks about experience attributes more than about search attributes. Because AD has little (if any) compelling multisensory attribute information to distract from search attribute information, the consumer thinks less about experience attributes and more about search attributes with AD exposure than with DPE. Thus, the proportions of various types of cognitive responses (CRS) concerning DPE vs. AD exposure are expected to differ significantly. Given

DPE's natural focus on experience attribute and AD's natural focus on search attributes:

H1: DPE exposure elicits a higher proportion of experience attribute cognitive responses (thoughts) than AD exposure. AD elicits a higher proportion of search attribute cognitive responses than DPE.

When an individual has focused on and thought more about attributes of a particular type, it is likely that the individual will freely elicit more attributes of that type when asked to list the important features s/he might use in choosing between the target brand and other brands.

In a manner similar to H1:

H2: A larger number of important experience attributes are salient after DPE than after AD exposure. A larger number of important search attributes are salient after AD exposure than after DPE.

Based on Proposition 1, experience attribute belief strength variables like confidence, accessibility and persistence in memory are greater after DPE than after AD, because DPE is more effective in communicating the information on which those beliefs are based. If experience attribute information is sketchy or difficult to attend to in an advertisement, beliefs based on that information will be weakly held. One can use Proposition 2 in a similar manner by saying that there is greater search belief strength after AD than after DPE. It follows that:

H3: The confidence in experience beliefs is greater after DPE than after AD exposure, while confidence in search beliefs is greater after AD than after DPE.

H4: The accessibility of experience beliefs is greater after DPE than after AD exposure, while accessibility of search beliefs is greater after AD than after DPE.

These first four hypotheses involve the interaction of attribute type and media type in their effects on cognitive variables. Marks and Kamins (1988) and Smith and Swinyard (1988) found that beliefs derived from sampling were held with more confidence than those derived from DPE. Both the pen and snack food used in these two studies had large experience attribute components that automatically would give sampling an advantage. Chapter 2 reanalyzed Smith and Swinyard's (1988) data providing directional support for H4. Reanalysis of their data also showed that Propositions 1 and 2 were supported for the dependent variable, likelihood of attribute possession.

Search Attribute Belief Accuracy

When a medium has brought attribute information into focus and can clearly communicate the information, it is likely that the information will be perceived with more accuracy than otherwise. In a marketing context, the consumer is likely to have more accurate recall concerning a product when the medium is conducive to effective communication of the information on which those beliefs are based.

Because experience attribute beliefs are subjective and their accuracy cannot be judged, hypotheses about

belief accuracy can be made only concerning search attribute beliefs:

H5: Short-term and long-term memory accuracy for search beliefs are greater for AD than DPE exposure.

This hypothesis is consistent with a reinterpretation of Borgida and Nisbett's (1977) empirical results. Their study pitted written academic course ratings and comments against the same ratings and comments given "in person" by actors. This could be interpreted as indirect vs. more direct experience. Subjects who received the written ratings recalled the mean course evaluations more accurately than the subjects in the "in person" condition ($p < .02$). They also matched the course names with their respective course content descriptions more accurately ($p < .02$) than the "in person" subjects. There was a non-significant difference between the two conditions in matching course names with evaluative comments.

The mean ratings (abstract statistics), course names and course content descriptions are assumed to be mainly search attributes, giving indirect experience an advantage. The course comments probably had a mix of search and experience attribute information (e.g., boring material) so neither condition had an advantage. This may explain the non-significant difference between the two conditions when the course comments were involved.

It should be noted that Borgida and Nisbett's study did not fulfill the definition of direct experience given

in Chapter 1, because it did not provide the possibility of actually experiencing the academic courses' important attributes. Their study is thus only suggestive of the relationship posited in H5.

When a medium naturally focuses on one type of information instead of another, it follows that the particular type of information leaves a longer lasting trace in memory. Beliefs concerning this type of information are thus likely to persist for longer in memory. When an individual thinks about that information more (see H1), it is likely that memory for that information will decay less:

H6: Search belief memory accuracy decay is greater after DPE than after AD exposure.

H1-H6 predict how a number of cognitive variables are affected by media (AD and DPE) presentation of product attributes. For each cognitive variable, AD's superiority in presenting search attributes and DPE's superiority in presenting experience attributes is predicted.

An Important Assumption

The remaining hypotheses (H7-H9) rest on an assumption that DPE has an advantage over AD when the product of interest has a large experience attribute component. If DPE is more effective than AD in presenting a significant amount of the important product information, then the consumer's attitude based on that superior information is stronger (Smith and Swinyard's (1982) "higher order affect") for DPE when compared to AD. In

effect, clear information produces a strongly held attitude more likely to predict behavior. Such a prediction is true only if the product has a large experience attribute component. It is not true for a product dominated by search attributes because DPE's advantage concerning the presentation of experience attributes is not present. In such a case, AD has an advantage over DPE because AD's strength lies in its ability to communicate search attribute information better than DPE.

It should be noted that the above assumption that the product has a significant experience attribute component was not explicitly considered during the original conceptualization of Experiment I. The following hypotheses were based on previous works that did not consider the search vs. experience distinction. These works compared direct and indirect experience using stimuli with a significant experience attribute component (e.g., a snack food, puzzles, and aspects of a university housing crisis), thereby giving direct experience an advantage; the importance of this issue was discussed earlier in Chapter 2. The direct experience stimuli in this and the previously cited studies are assumed to be conducive to multisensory experience.

AD vs. DPE: Attitude, Intention and Behavior

The dominance of positive, negative and neutral cognitive responses to a product exposure depends on the

specific efficacy of the ad or product experience (DPE). In a similar manner, there is no reason to predict that attitude toward the product is more extreme with DPE than AD, because this attitude depends on the unique efficacy of the particular advertisement and product in question. One can imagine how a dramatic advertisement for a mediocre tasting candy bar could have a more extreme (positive) attitudinal response than DPE exposure. Smith and Swinyard (1983) made the prediction that "Attitudes are more extreme and/or confidently held for subjects exposed to product trial than for subjects exposed to product advertising" (p. 260). Based on the above reasoning, the extremity portion of their prediction is not warranted. However, Smith and Swinyard's prediction regarding attitude confidence holds:

H7: For a product with a large experience attribute component, the confidence in attitudes is greater for DPE than for AD exposure.

The rationale for this hypothesis follows the basic idea in Smith and Swinyard's (1982) model wherein "higher order" (stronger) beliefs are derived from sampling (DPE). These lead to "higher order" attitudes that are more likely to influence behavior (attitude-behavior consistency).

As discussed in Chapter 2, a number of studies have found that attitudes derived from direct experience are more confidently held than those derived from indirect experience (e.g., Fazio and Zanna, 1978a,b in a

non-marketing context; Smith and Swinyard, 1983 and Berger and Mitchell, 1989 in a marketing context). In Berger and Mitchell's study, the difference between AD and DPE was significant when AD consisted of one 15 second AD exposure but not when AD consisted of three AD exposures (total 45 seconds) or four AD exposures (total 60 seconds).

Attitude accessibility is another attitude strength variable:

H8: For a product with a large experience attribute component, attitude accessibility is greater for DPE than for AD exposure.

This accessibility prediction was discussed at length in Chapter 2 and is consistent with empirical work by Fazio et al. (1982). In a marketing context, Berger and Mitchell (1989) found that brand attitudes were not significantly more accessible after DPE when compared to one, three or four AD exposures. No empirical work has been done in a marketing context which supports H8.

The final hypothesis is consistent with prior empirical work in marketing (Smith and Swinyard, 1983) and in non-marketing studies (Regan and Fazio, 1977; Fazio and Zanna, 1978b).

H9: For a product with a large experience attribute component, attitude is a better predictor of behavioral intentions after DPE exposure than after AD exposure.

In a marketing context, Berger and Mitchell (1989) found that attitude-behavior (A-B) consistency was significantly higher for DPE than AD using a single 15 second AD exposure. The differences between AD and DPE

were not significant using three AD exposures (total 45 seconds) or using four AD exposures (total 60 seconds).

The basic rationale for H9 is that direct experience increases the attitude strength dimensions which in turn increase A-B consistency. This was examined in depth in Chapter 2. Attitudes derived from direct experience are likely to be more confidently held (H7) and accessible (H8) than attitudes derived from AD exposure. In turn, attitude confidence has been linked to increased A-B consistency (Sample and Warland, 1973; Fazio and Zanna, 1978 a,b; Smith and Swinyard, 1983), and attitude accessibility has been linked to increased A-B consistency (Fazio et al., 1982; Fazio and Williams, 1986; Fazio et al., 1989).

Summary

Experiment I allows a comparison of AD and DPE for a number of dependent variables. The perspective is similar to that of Fazio and Zanna (1981) in social psychology and Smith and Swinyard (1982) in marketing, because indirect vs. direct experience is the issue of interest. The first six hypotheses concern AD vs. DPE effects on cognitive dependent variables, while H7-H9 concern affective and behavioral dependent variables. Experiment I examines hypotheses comparing AD and DPE exposure for a product where the ratio of important experience attributes to important search attributes is significant.

Method

Pretests of Stimuli

Subjects. In designing stimuli to be used in the main study, 26 undergraduate student subjects participated in the following pretests labeled a "Product Evaluation Study". The subjects received extra credit in an introductory marketing course at the University of Florida in return for their participation.

Ad design. In order to test the above hypotheses, the AD and DPE conditions had to be represented by appropriate stimulus materials. Because of the study's interest in the search vs. experience distinction for attributes, it was appropriate to choose a product that had both types of attributes. The presence of multisensory experience attributes that are important to the purchase decision was especially desirable so that the search vs. experience contrast could be highlighted. The product chosen was a candy bar being test marketed in another region of the country. A candy bar was deemed relevant to the college student population. This has support in Smith and Swinyard's (1983) justification for using a snack food for college student subjects. The product's sale in another part of the country precluded any confound with prior knowledge and/or experience.

Tests of the AD vs. DPE hypotheses are meaningless if the advertisement does not fairly convey enough information. For example, if the ad describes only such

attributes as how large the candy bar is and how many calories it has (search attributes), the ad is at a great disadvantage in being compared on such important attributes as taste and chewiness. Conversely, puffery, exaggeration and selective attribute claims in an ad could give it an unfair advantage over DPE. In order to equalize DPE and AD as much as possible, an advertisement was specially constructed for the experiment.

The procedure in designing and pretesting the ad began with taste tests of the candy bar. Ten subjects were told to orally report their thoughts about the product while they were eating the candy bar. They then wrote cognitive responses and listed the important attributes they would use in choosing between the candy bar and others with which they were familiar. Two test ads with basically identical information were drawn up using neutral translations of subjects' oral and written thoughts while eating the candy bar and the important attributes. The modal cognitive responses and important attributes were thus translated into copy for a print ad.

The two test ads were then given to 11 new subjects who commented on the ads (orally and/or in writing) and listed important attributes in written form. Thoughts during the ad exposure and important attributes were also elicited from five additional subjects in the DPE then AD exposure condition. These five subjects were also asked to list any aspects of the product that they did not find

out from eating the product itself but which they discovered from reading the ad. The preferred test ad was modified based on all of these responses.

The visual appearance of the ad was deemed important for realism and because of peripheral processing considerations involved in forming an attitude toward the advertisement (see Lutz, 1985). A full color advertisement matching the red, white and blue color scheme of the package was drawn up. The final stimulus ad is shown in Appendix A.

Stimulus exposure. The exposure times for the AD and DPE conditions were equated, because as one thinks more about a product, there is a greater chance of attitude polarization (see Tesser, 1978, for a review). A longer time of exposure for one condition could mean a difference in product thought time from the outset.

Based on observing subjects in the pretests, a 1½ minute exposure time was selected. This relatively long ad exposure could have represented an accumulation of ad exposures. The 1½ minutes of DPE represented a brief sampling occasion.

Main Study

Subjects and basic design. In the main study, college student subjects desiring extra credit in an introductory marketing course came to two sessions which were 6-7 days apart (5 days for one subject in the AD condition). Subjects signed up for a convenient time

period for both sessions. Using random assignment without replacement, each time slot for the first session was assigned to one of four treatment conditions: AD, AD+DPE, DPE, and DPE+AD. This made the experiment a between-subjects design. The AD+DPE condition and the DPE+AD condition were run concurrent with the single (AD or DPE) conditions, but none of the combination conditions' data will be discussed here.

For the first session, 26 different time slots were attended by 74 subjects. One of the DPE subjects was accidentally not given the quiz and imagery questions but his/her data was kept in the other analyses. Three DPE subjects did not appear for the second session.

The maximum number of subjects during each time slot was five in the first session and three in the second session with an average of 2.85 subjects per session. The small size of the sessions and physical partitions between the subjects during both sessions of the study increased the independence of each subject's responses.

Main study procedure. The cover story for the experiment stated that it was a product evaluation study involving "a new candy bar which is going to be test-marketed soon". This effectively masked the purpose of the study so well that no one out of the first 22 subjects guessed the purpose of the study. When asked at the end, "What do YOU think the purpose of this study was?" Since the purpose was so well masked with this

group, interpreted data about the study's perceived purpose was not collected for later subjects.

After listening to the cover story and some other instructions, subjects started with viewing the ad (or eating the candy bar) for one and one-half minutes. Subjects then wrote the thoughts they had while viewing the ad (or eating the candy bar) for a two minute period. After this, subjects had no time limit in eliciting the important attributes of candy bars in general that they felt they would use in deciding between the candy bar and other brands. A multiple choice quiz about the product and the Betts QMI Vividness of Imagery Scale (Richardson, 1969) were then administered.

During the second session, all of the following questions were answered on a personal computer (in order): belief levels, evaluations and confidences; a multiple choice questionnaire including the same quiz from the first session (see Appendix B); attitude toward the product and its confidence; attitude toward purchase and its confidence; purchase intention and its confidence; product class involvement; and a choice between cash or candy bars. Subjects were unaware that the computer automatically measured the response time on all questions. The first 22 subjects wrote open-ended responses to whether they understood all of the questions in the experiment and what they thought the purpose of the study was. Subjects were then debriefed and asked not to

discuss the purpose of the study with their friends. The questionnaires from both sessions appear in Appendix B and are briefly described in the next section.

Measures

Cognitive responses were elicited in the AD condition with the following written instructions:

As you viewed the ad for the candy bar, what were the thoughts that went through your mind? Please write down in the boxes on the following page, everything that you thought of, regardless of whether it pertained to the ad, the product itself or anything else that went through your mind.

The cognitive responses in the DPE condition were elicited using the following written instructions:

As you sampled the candy bar, what were the thoughts that went through your mind? Please write down in the boxes on the following page, everything that you thought of, regardless of whether it pertained to the product itself, the package or anything else that went through your mind.

For both conditions, there were also some additional instructions about the writing of the thoughts:

Please write one thought per box; you do not need to fill all the boxes, just as many as the number of thoughts you had while viewing the ad (sampling the product). Do not worry about spelling, grammar, or punctuation. You will have two minutes to complete this task.

Please do not turn the page and begin writing your answers until instructed to do so by the experimenter. Please look up when you have finished reading these instructions.

Ten important beliefs were gathered from the pretesting process described earlier in which subjects consumed the product and/or viewed the advertisement. In

the main study, each subject chose a level of each belief on a 1-7 scale (e.g., "Concerning candy bars in general, HOW *SWEET* is this candy bar?"- not at all SWEET... extremely SWEET). Confidence was measured on a 1-7 scale using something similar to: "How CERTAIN are you about the ACCURACY of your above judgment about how (ATTRIBUTE) this candy bar seems?"- not at all certain... extremely certain. Next, the subject responded on a 1-7 scale to "How desirable or undesirable is it that ANY candy bar is as *(ATTRIBUTE)* as you rated this candy bar above?"- very undesirable... very desirable. Having subjects state the level of each attribute circumvented having the experimenter frame the product for the subject, and it made the evaluation scale apply to the perceived attribute level and not a contrived one.

During all of the pretests, a multiple choice product quiz concerning the candy bar was given. This quiz evolved as it became obvious that some questions could be misunderstood or had no exactly correct answer. One notable example was "What does this candy bar taste most like?" At first the correct answer was assumed to be "nuts"; however, "chocolate" and "caramel" were popular answers. Because direct product experience is a "personal" experience, no one can really say which answer is correct. This pretest process confirmed the subjective nature of experience attributes like taste. With such considerations in mind, the product quiz that finally

evolved for the main study contained very exact testable answers concerning only search attributes like net weight, price and ingredients.

Attitude toward the product and attitude toward purchase were both measured using a 1-7 semantic differential scales: unfavorable-favorable, good-bad, harmful-beneficial, like- dislike, and unappealing-appealing. The order of the negative and the positive poles was rotated to avoid any response bias and to keep subjects from keying the same number repeatedly.

Purchase intention was represented by "How would you describe your chances of buying this product when it becomes available?" likely... unlikely, improbable... probable, possible... impossible all on a 7 point scale.

Confidence measures concerning attitude toward the product, attitude toward purchase and purchase intention were always measured by a seven point scale- not at all certain... extremely certain.

For the first 22 subjects, behavior was measured as a choice between \$2.00 in cash or 5 of the candy bars (retail value \$2.00). Because most subjects were choosing the cash option (38 out of 42 subjects including the combination conditions), it was decided that this behavioral choice measure should be changed. The remaining subjects were given a choice between receiving \$.50 or two candy bars (retail value \$.80) instead of the above choice. This also simulated a typical reduced price

promotion situation. In both cases, the subjects learned after they expressed their choice that no money and no candy bars would be distributed. "Choice" was the last variable measured so this change in the questionnaire had no effect on the other measures. Because of this midstream change and a computer programming problem, the number of subjects available for the behavior measure statistics was quite small. The first behavior choice had 22 subjects available for AD and DPE together, and the second had 32 subjects available. Other dependent measures had 71-74 subjects. Because of the small cell sizes, these two behavior measures were not used in any of the analyses.

Product class involvement was measured with the following: "Please use the scales below to describe your feelings about candy bars in general."- important... unimportant; means a lot to me... means nothing to me; exciting... unexciting; trivial... fundamental; not needed... needed; interesting... not interesting on a 7-point scale. These adjectives were extracted from Zaichkowsky (1985). To construct the final composite measure of product class involvement, correlations across the six measures were computed. Using visual inspection, the four measures with the highest correlations were used as an index measure for product class involvement. Table 1 shows the Cronbach alpha reliability coefficient for the index.

Table 1

Cronbach Alpha Reliability Statistics

Attitude Toward the Product	(5 measures):	.83
Attitude Toward Purchase	(5 measures):	.90
Purchase Intention	(3 measures):	.92
Product Class Involvement	(4 measures):	.86

Note. Because four conditions were run concurrently from the same pool of subjects, this table refers to subjects' responses to identical questions for the single and combination conditions.

A background check on product class usage consisted of a question within the search attribute quiz section asking how many candy bars the subject eats in a typical month. This was asked during the second session product quiz.

Accessibility Measurement

Chapter 2 discussed major works by Fazio and colleagues (e.g., Fazio et al., 1982; Fazio et al., 1989) which measured attitude accessibility using response time (RT) to questions concerning the subjects' attitudes. Because of the centrality of their research in this work, accessibility was operationalized as response times to relevant questions in Experiment I. All questions in the computer questionnaire were automatically timed by the computer, so that belief and attitude accessibility in

this work refer to the number of seconds it took for subjects to read and answer the relevant question(s). A small number of seconds means that the belief or attitude was highly accessible.

Individual subjects have different quickness of response to questions especially when keying the response on a computer. This can be due to individuals' experience with computer keyboards, their reading speed, and/or simple individual differences in manual dexterity. Each subject has a minimum response time to even the simplest question. When this minimum or baseline influence is removed from the score, individual differences are reduced and there is a much smaller variance in the final scores. In order to adjust for such inherent individual differences, a baseline response time measure for each subject was gathered during the search attribute quiz section. This was a simple multiple choice question asking "Which of these classifications best describes you?"- freshman, sophomore, junior, other or senior.

Analysis and Results

Cognitive Response Analysis

Pretests of DPE and AD revealed that CRS were often just simple descriptions of the ad, product, package or brand name. Lutz and MacKenzie's (1982) categorization scheme was adapted for use in this research. Three dimensions of CR categories were used: target, evaluative,

and relational. For the purposes of the dissertation, only the target dimension will be described. The target dimension indicated whether the thought was directed toward the ad, product, package, brand name or "other" target. Because of the importance of product-oriented thoughts, this category was broken down further. The categories for product directed thoughts were 1) product as a whole, 2a) experience attribute thought and 2b) search attribute thought.

Three coders blind to the treatment coded the cognitive responses and important attributes. The coding began with two coders coding all the responses separately. If there was any disagreement, a third coder broke the tie. The third coder usually agreed with one of the two other coders. Discussion of the reasoning involved was used in the negligible number of instances when the third judge disagreed with the other two judges. Tables 2 and 3 show the reliabilities for various measures taken and the interjudge agreement for the cognitive response coding and important attribute coding. Table 4 shows the attributes and their coding.

A "price" category was added after the complete coding of the first 23 subjects' cognitive responses. Because of the lack of ambiguity in this category, one judge (not one of the experimenters) blind to the treatments added the "price" distinction to this first group's coding.

Table 2

Cognitive Response Coding: Interjudge Reliability
(1,206 CRS total)

	5 Basic Targets*	8 Detailed Targets**
# disagree	133	276
% agree	88.97%	77.11%

Note. Because four conditions were run concurrently from the same pool of subjects, this table refers to subjects' responses to identical questions for the single and combination conditions.

** advertisement, candy bar product, package, brand name and "other".

*** whole ad, part of ad, candy bar as a whole, experience attribute, search attribute, package, brand name and "other".

Table 3

Important Attribute Coding: Interjudge Reliability
(764 attributes total)

	5 Basic Targets*	8 Detailed Targets**
# disagree	36	81
% agree	95.29%	89.40%

Note. Because four conditions were run concurrently from the same pool of subjects, this table refers to subjects' responses to identical questions for the single and combination conditions.

** advertisement, candy bar product, package, brand name and "other".

*** whole ad, part of ad, candy bar as a whole, experience attribute, search attribute, package, brand name and "other".

Table 4

Judges' Categorization of Product Attributes Used in Experiment I*

Search	Experience
nutritious	sweet
fattening	crunchy
expensive	chocolatey
appearance of the candy bar	peanuty
itself (not the wrapper)	filling
ingredients (e.g., crisp rice)	
type of nuts	
cost in cents	
calories	
net weight	
protein grams	

* In addition, subjects were asked about the appeal of the candy bar wrapper. This is less of a benefit of the product itself when compared to the above attributes and was not used in the analyses.

Because the number of thoughts elicited differed among individuals, the CR categorization descriptions had to be expressed in terms of the percentage of each type of thought (e.g., 20% of a subject's thoughts were about the package). In analyzing the types of cognitive responses, the number of thought types for the condition was assumed to be the number in proportion to the number elicited. This adjusted for subjects' individual verbosity in reporting the cognitive responses.

AD vs. DPE Contrasts

According to the Central Limit Theorem, if the sample size is greater than 30, the sampling distribution of

sample means is approximately normal no matter what the shape of the underlying population. This is important in looking at response times (i.e., accessibility measures), because the distribution of the underlying population is usually skewed to the right (i.e, non-normally distributed). Because all response time variables had cell sizes greater than 30, normality of the sampling distribution of sample means could be assumed. The between-subject design of treatment exposures satisfied the assumption of independence of the observations. Since all hypotheses in this experiment were directional, all of the t-tests are one-tail tests unless indicated. The means and standard deviations for these tests are shown in Table 5.

Cognitive Variable Contrasts

H1 predicted that the proportion of cognitive responses concerning experience attributes would be larger for DPE than AD exposure, while the proportion of search attribute CRS would be higher after AD. Mean proportions were used instead of CR counts in order to adjust for individual subjects' variations in verbosity. Consistent with H1, directly experiencing the candy bar produced a larger proportion of experience attribute thoughts ($t(72) = -7.10, p < .0001$). Conversely, advertising for the candy bar produced a larger proportion of search attribute thoughts than did DPE ($t(72) = 2.65, p < .005$). H1 was strongly supported.

Table 5

Experiment I: Means and Standard Deviations
(in parentheses) n= 71 unless indicated

Dependent Variable	AD	DPE
Propor. of CRS elicited ¹		
Experience	.075 (.14)	.33 (.17)
Search	.36 (.23)	.23 (.20)
Number of CRS elicited ¹	5.58 (1.78)	5.94 (1.79)
Propor. of attributes elicited ¹		
Experience	.26 (.17)	.29 (.20)
Search	.63 (.20)	.54 (.19)
Number of important attributes elicited ¹	5.10 (1.93)	5.56 (1.93)
Belief confidence		
Experience	4.48 (1.35)	5.41 (.86)
Search	5.15 (1.81)	5.46 (.96)
Belief accessibility ²		
Experience	.52 (2.61)	-.67 (2.01)
Search	-.08 (1.33)	.11 (1.64)
Belief encoding accuracy ³		
Search	6.47 (.99)	5.30 (1.42)
Belief memory accuracy		
Search	5.90 (1.15)	5.26 (1.41)
Memory decay ⁴		
Search	.58 (1.01)	.00 (1.60)
Attitude toward the product		
Level	4.69 (.92)	4.62 (1.08)
Confidence	4.80 (1.64)	5.71 (1.13)
Accessibility ²	-.014 (1.65)	.018 (1.52)
Extremity	.94 (.66)	.95 (.79)
Attitude toward purchase		
Level	4.73 (.95)	4.17 (1.36)
Confidence	5.05 (1.58)	5.65 (.98)

Table 5--continued

Dependent Variable	AD	DPE
Purchase intentions		
Level	5.04 (1.43)	3.94 (1.78)
Confidence	5.58 (1.55)	5.55 (1.48)

¹ n = 74.

² Each subject's score was adjusted by the subject's baseline response time.

³ n = 73. All accuracy scores are on a 0 to 8 scale.

⁴ n = 70. The means are not the exact difference between the first and second elicitation because of attrition.

H2 predicted that the proportion of elicited important experience attributes would be larger after DPE exposure than after AD while the proportion of search attributes would be smaller after DPE than after AD. The results of these two contrasts were both in the predicted direction. The experience attribute contrast was not significant ($t(72) = -.85, p < .20$), while the search attribute contrast was ($t(72) = 2.14, p < .02$). It should be noted that the contrast that was significant was the one showing that advertising had an advantage over DPE which is contradicts the trend in the literature to predict that DPE is usually superior and never inferior to AD in presenting product information.

As predicted in H3, subjects were significantly less confident in their beliefs concerning experience attributes when the product was advertised than when it was directly experienced ($t(67) = -3.57, p < .0004$).

Contrary to H3, search belief confidence was marginally greater after DPE; however, this did not reach significance ($t(69) = -1.18, p < .12$). Table 6 shows the confidence in each belief for AD and DPE. (It should be noted that Table 6 shows that the two H3 tests had equal sample sizes where $n = 71$, yet the above degrees of freedom were equal. The above were the degrees of freedom indicated in the t-tests performed by Statistical Analysis for the Social Sciences, Version 5.18 which is the packaged computer program used for the hypothesis tests.)

H4 predicted greater experience belief accessibility after DPE and greater search belief accessibility after AD. Because of the inherent individual differences in the response time of subjects, these accessibility measures were adjusted by an individual baseline response time measure described in the "Measures" section. For this hypothesis, each t-test was actually a test of the difference between the treatments' residuals after the baseline influence was removed. As predicted, the response time for experience beliefs was significantly slower for advertising than DPE ($t(69) = 2.10, p < .02$). However, this test concerning search beliefs was non-significant ($t(69) = -.55, p < .29$). Table 6 shows the accessibility of each belief for AD and DPE.

H5 and H6 concerned subjects' accuracy on two quizzes about search attributes of the candy bar. The raw score on the first quiz was soon after product exposure and was

Table 6

Confidence and Accessibility of Individual Candy Bar
Attribute Beliefs

n= 71

Belief Confidence (Standard Deviation)			
Attribute	AD	DPE	H : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
Sweet	3.98 (1.83)	4.87 (1.31)	t=-2.40, p<.02
Crunchy	4.93 (1.59)	5.68 (1.05)	t=-2.40, p<.02
Peanuty	4.58 (1.87)	5.52 (1.26)	t=-2.53, p<.02
Filling	4.00 (1.96)	5.16 (1.57)	t=-2.69, p<.009
Chocolatey	4.90 (1.45)	5.84 (1.21)	t=-2.91, p<.005
SEARCH			
Nutritious	3.98 (1.67)	4.32 (1.68)	t=- .87, p<.39
Expensive	5.78 (1.76)	6.23 (1.28)	t=-1.25, p<.22
Fattening	5.65 (1.49)	4.94 (2.02)	t= 1.65, p<.10
Appealing appearance	5.20 (1.65)	6.35 (.95)	t=-3.70, p<.0004
NOT USED:			
Appealing wrapper	5.58 (1.47)	6.29 (.90)	t=-2.53, p<.01

BELIEF RESPONSE TIME (STANDARD DEVIATION)

Attribute	AD	DPE	H : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
Sweet	15.45 (8.39)	10.10 (3.60)	t=3.63, p<.0006
Crunchy	6.78 (2.73)	6.56 (2.73)	t= .33, p<.74
Peanuty	6.68 (3.70)	6.58 (3.34)	t= .13, p<.90
Filling	7.14 (3.95)	6.94 (3.54)	t= .22, p<.82
Chocolatey	5.64 (2.72)	5.23 (2.52)	t= .65, p<.52
SEARCH			
Nutritious	8.79 (3.58)	8.08 (3.82)	t= .80, p<.43
Expensive	7.81 (3.21)	7.60 (2.94)	t= .28, p<.78
Fattening	6.33 (2.44)	7.52 (3.40)	t=-1.65, p<.11
Appealing appearance	7.93 (3.74)	8.08 (4.04)	t=-.16, p<.87
NOT USED:			
Appealing wrapper	6.77 (2.94)	5.93 (2.24)	t=1.32, p<.19

Table 6--continued

MULTIPLE CHOICE QUESTIONS USED (ALL SEARCH ATTRIBUTES):

Attribute	AD	DPE	H : $\bar{X}_1 = \bar{X}_2$
Ingredients esp. caramel	12.50 (5.54)	11.81 (3.84)	t=.62, p<.54
Ingredients esp. crisp rice	7.86 (5.64)	7.94 (3.94)	t=-.07, p<.95
Cost in cents	3.67 (3.00)	3.78 (2.83)	t=-.16, p<.88
Type of nuts	4.86 (2.37)	5.42 (3.64)	t=-.74, p<.46
No. of calories	4.12 (2.43)	4.06 (1.79)	t= .11, p<.91
Net weight	4.94 (2.03)	5.13 (2.05)	t=-.40, p<.69
Ingredient not included:			
coconut	9.63 (4.72)	9.32 (5.30)	t=.27, p<.79
Grams of protein	5.14 (2.25)	5.85 (2.77)	t=-1.19, p<.24

thus interpreted as short-term memory accuracy. The same quiz was given about six days later and interpreted as long-term memory accuracy. The difference between the two quiz scores was interpreted as the memory decay variable in H6. Consistent with H5, subjects' short-term and long-term memory accuracy were greater after AD than after DPE ($t(55) = -4.00$, $p < .0001$; $t(69) = -2.11$, $p < .02$, respectively).

H6 predicted that memory decay would be greater for DPE, however, the empirical results showed just the opposite ($t(46) = 1.73$, $p < .05$). This could be attributed to a floor effect when one examines the means of the four quiz scores (scale range of 0 to 8):

	AD	DPE
search attribute quiz #1	6.47	5.30
search attribute quiz #2	5.90	5.26

With AD exposure, there was more opportunity for memory decay, because short-term memory was much greater for AD than DPE. In other words, DPE memory decay was smaller, because short-term memory was lower. Hereafter, this will be referred to as a "ceiling effect", because DPE memory decay reached an upper limit.

MANOVA for the Cognitive Variables

A multivariate analysis of variance (MANOVA) for the above cognitive variables was performed to see if the basic attribute type X media type interaction was similar across the cognitive variables. The accuracy variables could not be used in this analysis because they did not apply to experience attributes. For cognitive responses, important attributes, belief confidence and belief accessibility, the difference between experience and search attributes was calculated. The MANOVA model used these four difference variables as the dependent cognitive variables and media type treatment as the independent variable. The MANOVA was significant ($F(4,66) = 9.18, p < .0001$) for the basic interaction which supports Propositions 1 and 2 together. A similar MANOVA model testing whether DPE was more effective in communicating experience beliefs was significant ($F(4,66) = 13.04, p < .0001$) and supported Proposition 1. A MANOVA model

testing whether AD was more effective in communicating experience beliefs than DPE was significant ($F(6,63) = 4.65, p < .0006$) and supported Proposition 2. This last test included the additional variables, belief encoding accuracy, belief memory accuracy and memory decay.

Attitudinal and Conative Dependent Variables

H7 predicted that for the type of product used in the experiment, attitude toward the product and purchase intention would be less confidently held after advertising exposure than after DPE. This was true for attitude toward the product confidence ($t(68) = -2.77, p < .004$).

H8 predicted that attitude toward the product would be more accessible after DPE than after AD. As in H4, the accessibility measures were adjusted by the individual baseline response time measure described in the "Measures" section. Attitude accessibility was slightly higher for AD than DPE, but this difference did not reach significance ($t(69) = .08, p < .47$).

H9 predicted that attitude-intention consistency is higher for DPE than AD for a product conducive to multisensory experience. In testing this, a model was formed in which attitude, treatment (AD or DPE) and the interaction of treatment and attitude were related to the dependent variable purchase intention. Consistent with H9, attitude-intention consistency was significantly greater after DPE than after AD ($t(66) = -1.76, p < .04$). Table 7 shows the sum of squares calculations for the

model testing this hypothesis. If one were to attribute this higher attitude-behavior consistency for DPE to one of the attitude strength variables, it would have to be attributed to attitude confidence, because of the results of H7 and H8. Attitude confidence was significantly higher for DPE, while attitude accessibility was slightly less for DPE than AD exposure.

Additional Analyses

The measure of attitude extremity was equivalent to converting the attitude measure to a -3 to +3 scale and computing the absolute value. The AD stimulus design was effective in producing no significant difference between AD and DPE concerning attitude extremity ($t(69) = -.09$, two-tail $p < .93$). This does not support Smith and Swinyard's (1983) hypothesis that attitudes derived from direct experience are more extreme than those derived from advertising. Problems with their prediction were discussed in this chapter and in Chapter 2.

It is interesting that attitude toward the product for AD and DPE exposure were equivalent ($t(69) = .30$, two-tail $p < .77$), but that attitude toward purchase and purchase intention were more positive for AD than DPE ($t(51) = 1.94$, two-tail $p < .06$; $t(69) = 2.90$, two-tail $p < .005$ respectively). Perhaps subjects had curiosity about the product that could be satisfied by purchase.

A basic assumption of Smith and Swinyard's (1982) theoretical work comparing advertising and sampling was

Table 7

Hypothesis 9: Media Type as a Moderator of Attitude-
Intention Consistency

General Linear Model Procedure
Dependent Variable: Purchase Intention

Source	DF	Sum of Sq.	Mean Sq.	F Value	Prob>F
Model	3	107.6522	35.8841	27.09	.0001
Error	67	88.7422	1.3245		
Corrected Total	70	196.3944			

Test of Significance for Hypothesized Effect

Source	DF	Type III Sum of Sq.	t Value	Prob>t
Attitude Toward Product	1	81.1834		
Media Type	1	22.1194		
Attitude X Media Type	1	4.1257	1.76	.04*

* a one-tail t-test

that belief confidence is related to attitude confidence. This was tested by correlating mean belief confidence with attitude confidence. Their simple Pearson correlation was .59 (one-tail $p < .0001$, $n = 71$). With the influence of media type removed from these two variables, their partial correlation was .55 (one-tail $p < .0001$, $df = 68$, $n = 71$). This result supports Smith and Swinyard's assumption.

Fazio (1986, p. 223) states: "Confidence and clarity may be both causes and consequences of attitude accessibility, as may be temporal stability." This implies that attitude accessibility and confidence are correlated. The simple Pearson correlation relating attitude confidence and attitude accessibility (i.e., two attitude strength variables) was .15 (one-tail $p < .10$, $n = 71$), and their partial correlation with treatment removed from the two variables was .16 (one-tail $p < .10$, $df = 68$, $n = 71$). The response time baseline influence was removed from the attitude accessibility measure before both correlations. The small correlations of these two attitude strength variables are consistent with Raden's (1985) conclusion that attitude strength is multidimensional (see Chapter 2).

Unlike the attitude strength dimensions, belief confidence and accessibility were related. Their Pearson correlation was $-.20$ (one-tail $p < .05$, $n = 71$) and their partial correlation with treatment effects removed from the two variables was $-.17$ (one-tail $p < .08$, $df = 68$, $n = 71$). The response time baseline influence was removed from the belief accessibility measure before computing both correlations.

An analysis of the number of cognitive responses reveals no significant difference between AD and DPE for this dependent variable ($t(72) = -.88$, two-tail $p < .38$). Similarly the number of important attributes which

subjects use in choosing among candy bars in general (product class) was similar for AD and DPE ($t(72) = -1.02$, two-tail $p < .31$). The importance of these two results is discussed in the next section.

Discussion

Cognitive Response Results

Subjects exhibited significant differences in the type of thoughts they had during the two types of media exposure. Consistent with the two propositions, subjects had a higher proportion of experience attribute thoughts during DPE and a higher proportion of search attribute thoughts during AD.

It should be noted that the number of CRS concerning both attribute types together did not differ for AD and DPE. AD presented at least six experience attributes (see the AD stimulus in Appendix A) and the average number of CRS from the AD condition was 5.58. This meant that the AD focused on more than enough experience attributes to cover the total number of cognitive responses from that condition. Subjects in the DPE condition might have found the concrete experience attributes more compelling and thought about them a great deal, so that the search attributes were in effect crowded out of the limited attentional capacity of five to six thoughts. However, because AD was not effective in presenting experience attributes, cognitive response to those attributes was

lower during the AD condition. Even if the information about those experience attributes was relatively pallid, it was possible for subjects to have such curiosity thoughts (CRS) as "Maybe the ad says it is 'sweet but not too sweet' but how sweet would I think it was?" or "How can it be crunchy and chewy?". Despite this possibility, more attention and cognitive response was directed toward attributes that were effectively communicated by that medium--search attributes during AD exposure.

The cognitive response dependent variable supports the "distraction" mechanism underlying the rationale for Proposition 2, because more than 5.56 pieces of information were available within each attribute type. Subjects switched their attention to the attribute type best presented by the medium. With a limited amount of attentional capacity (as evidenced by the equivalent number of CRS for AD and DPE), subjects' attention and thoughts were directed at compelling and concrete experience attributes like taste during DPE. When those attributes were presented in a less concrete way during AD, they were no longer so compelling in influencing attention and thought. During AD exposure, the search attributes so effectively communicated by AD dominated attention and thought.

Attribute Importance In Brand Choice

Like the number of cognitive responses, the number of attributes judged important to the brand choice decision

was similar for the two media. What this meant is that any increase in one type of attribute elicited led to a corresponding decrease in the other types of attributes elicited. The increase in one type of attribute over the other is proposed to have been caused by the particular strength of the medium involved which automatically focused attention on the more effectively communicated attribute type. This may be thought of as a part-list list cuing effect (see Alba and Chattopadhyay, 1985, 1986) wherein the salience of one attribute type hinders recall of competing types.

As predicted, experience attributes were salient more after DPE than AD, while search attributes were salient more after AD than DPE. For these two attribute type importance contrasts, it should be noted that the contrast that was statistically significant was the one showing that advertising had an advantage over DPE.

Belief Confidence, Accessibility and Accuracy

The search attribute belief confidence result that was directionally counter to Proposition 2 may have been due to a methodological problem. Most of the search attribute questions came after the experience attribute questions. The experience attribute answers might have created a halo effect in the AD condition. Subjects in the AD condition may have become accustomed to keying lower confidence levels by the time most of the search attribute questions were elicited. In contrast, subjects

in the DPE condition would have become accustomed to higher confidence level responses than AD because the earlier experience attribute information had been effectively communicated. In any event, because of the non-significant difference between AD and DPE for this counter-directional result, one cannot say conclusively that Proposition 2 was contradicted.

Another aspect of this result that makes it less conclusive was subjects' possible confusion in the measurement of the search attribute confidence levels. Though search attribute information is objective and clear-cut in nature (e.g. price, ingredients, number of calories, net weight), these attributes were elicited using a continuous 1-7 scale (e.g., not at all expensive... extremely expensive). Subjects could know the exact level of the attribute (e.g., it costs \$.40) but not know where that level was supposed to fit on the 1-7 scale. With subjective experience attributes (e.g., level of sweetness or crunchiness) it would be understood that the use of the scale was more subjective because of taste and sensory differences among people. With more exact and objective search attributes, subjects could answer the question on the attribute continuum but be uncertain about the objective baseline of comparison (e.g. other candy bars vs. snacks in general). This might have also affected the time it took to answer these search attribute

questions, which would create problems for the belief accessibility measures.

The belief accessibility results testing H4 were directional but not all reached significance. Only the accessibility of experience attributes was significantly different for AD and DPE. The above problems in eliciting search attributes may have created enough error to preclude statistical significance for the search attribute accessibility test.

The two measures of search attribute belief accuracy minutes after media exposure and roughly six days after media exposure revealed that AD is more effective than DPE in presenting search attributes. Because of the floor effect described earlier, the memory decay effect test is less conclusive.

Media Effects on Attitudes and Intention

As predicted for a product conducive to multisensory experience, attitude toward the product was less confidently held after advertising exposure than after DPE. For purchase intention confidence there was little difference. This may be attributed to the person feeling that s/he doesn't have enough information about experience attributes in the AD condition. In the AD condition, the person might intend to buy the product out of curiosity, while the DPE subject might intend to buy the product because s/he confidently likes it. This rationale is very consistent with Proposition 1 which says that advertising

cannot effectively present experience attribute information.

In a non-marketing context, Fazio et al. (1982) have found in their empirical work that attitude accessibility is greater after direct than after indirect experience. Berger and Mitchell's (1989) empirical results for this dependent variable (using one, three and four AD exposures-- see Chapter 2) and this experiment both contradict this prediction in showing equivalent attitude accessibilities after AD and DPE. Response time (accessibility) measures often have extreme variance because the slightest distraction can inflate the subject's response time. With a large error term, it is impossible to get significant results. Such measurement error may be the cause of these two marketing studies' null results for this prediction.

In this experiment, attitude accessibility was measured after a series of attribute evaluation questions followed by an attribute belief accuracy quiz. Subjects may have used their product attitude to guide their answers to the attribute evaluation questions. In such a case, subjects' attitudes may have already been readily available during the attitude accessibility elicitation. This would contribute to the null results concerning attitude accessibility if the quiz did not sufficiently clear attitudes from memory. Berger and Mitchell's (1989)

null results are not subject to this criticism, because subjects performed a filler task lasting at least five minutes before attitude accessibility was measured.

An inflated error term and already available attitudes would not change the fact that the means for attitude accessibility were greater for AD than for DPE in this experiment and for the four AD exposure condition in Berger and Mitchell's (1989) study (this was not true for the one and three AD exposure conditions in their study). The candy bar for the experiment in this chapter had such search attributes as nutritional information, price, ingredients (artificial and otherwise), net weight, size and appearance. According to Proposition 2, AD is superior in presenting search attributes. Attitude accessibility may have been higher for AD in this study and the four AD exposure condition in Berger and Mitchell's experiment, because so many of the products' important attributes (i.e., search attributes) were best shown in an AD format. This study and that of Berger and Mitchell (1989) used stimuli (i.e., candy) that may have had a large component (not necessarily a majority) of important search attributes that reduced DPE's advantage. The intellectual puzzles used in so many of Fazio and colleagues' works (see Chapter 2) probably didn't have as many search attributes. The significant differences between AD and DPE for attitude confidence might reflect this measure's higher reliability (e.g., less variability)

and sensitivity to the remaining advantage of direct experience.

Consistent with H9, attitude-intention consistency was significantly greater after DPE than after AD. This result is consistent with past research (Regan and Fazio, 1977; Fazio and Zanna, 1978b; Smith and Swinyard, 1983) that measured behavior concerning objects or products with a significant experience attribute component. With a significant experience attribute component, DPE should produce stronger beliefs which would lead to stronger attitudes that would be more likely to guide behavior.

As discussed earlier, the results from H7-H9 indicate that it was more likely that the increased attitude-intention consistency for DPE was driven by attitude confidence and not by attitude accessibility, because attitudes were not differentially accessible after AD than DPE in this experiment. In contrast attitude confidence was significantly higher for DPE.

Conclusion

Summarizing, for a range of dependent variables, the contrasts of AD and DPE generally supported Propositions 1 and 2 (see Table 8 for a summary). The weight of the empirical evidence in this experiment suggests that advertising is weaker than sampling (DPE) in the presentation of experience attributes. On the other hand, advertising is generally better at presenting search attribute information, because experience attribute

Table 8

Summary of Results: Experiment I

Hypothesis	Result
H1: more search attribute CRS after AD; more experience attribute CRS after DPE	YES, $p < .005$ YES, $p < .0001$
H2: AD and DPE alter framing of products' important attributes- larger proportion of important search attributes after AD & important experience attributes after DPE	YES, $p < .02$ NULL, $p < .20$
H3: more search belief confidence after AD; more experience belief confidence after DPE	NULL, $p < .12$ YES, $p < .0004$
H4: greater search belief access after AD; greater experience belief access after DPE	NULL, $p < .29$ YES, $p < .02$
H5: short-term & long-term search attribute memory accuracy are greater after AD	YES, $p < .0001$ YES, $p < .02$
H5: memory decay for search attributes is higher after DPE than after AD	NO, $p < .05$ (possible ceiling effect)
H7: Attitude and intention confidence are greater after DPE	YES, $p < .004$ NULL, $p < .47$
H8: Attitude access is greater after DPE	NULL, $p < .47$
H9: Attitude-intention (A-I) consistency is greater after DPE	YES, $p < .04$

information is less likely to distract from that search attribute information. These modes of communicating product information have different characters and different strengths and weaknesses.

Using the search vs. experience contrast, Experiment I deepened the explanation of AD and DPE effects by qualifying past works' predictions about the superiority of DPE. The cognitive variable hypotheses had their roots in Propositions 1 and 2. The attitude and intention hypotheses were based on the assumption that the product (candy bar) had a significant experience attribute component, thereby giving DPE an advantage. Experiment II examines what can happen when the ratio of search to experience attributes changes.

CHAPTER 4

EXPERIMENT II

Introduction

Media Congruence of Search vs. Experience Attributes

In Chapter 2, Nelson's (1970, 1974) experience and search distinction was examined in depth. Experience attributes must be experienced to be truly known and are usually a matter of subjective experience or opinion. In contrast, search attribute information can be acquired from second hand sources and is generally more objective. Search attribute information in an ad is reasonably reliable partly because it is easier to define and prosecute false search attribute claims. Basically, experience attribute information from advertising cannot be as rich, multisensory, and credible as directly experiencing that type of information. This was the basis of Proposition 1 in Chapter 2 which stated that DPE is superior to AD in presenting experience attribute information.

As described in Chapter 2, the compelling nature of experience attribute information derived through one's own senses distracts the consumer from the more abstract search attribute information available during DPE. In

contrast, AD generally does not allow this direct experience of experience attribute information, and thus does not present this strong distraction away from its search attributes. Unlike the results of DPE exposure, search attribute information gains more than its share of attention when compared to the relatively weak presentation of experience attributes during AD exposure. This was the basis of Proposition 2 in Chapter 2 which stated that AD is superior to DPE in presenting experience attribute information.

Experiment I presented statistically significant support for the search vs. experience distinction in Propositions 1 and 2:

1. There were more search attribute thoughts after AD than after DPE.
2. There were fewer experience attribute thoughts after AD than after DPE.
3. More search attributes were salient as important attributes after AD than after DPE.
4. Search attribute encoding accuracy was greater for AD than DPE.
5. Search attribute memory accuracy (after about 6 days) was greater for AD than DPE.
6. Experience attribute belief confidence was less after AD than after DPE.
7. Experience attribute belief accessibility was less after AD than after DPE.

Four of these results directly show that advertising had an advantage over DPE in presenting search attribute beliefs.

Here, a medium is labelled "congruent" with the attribute type if it is the medium that best presents that attribute type according to Propositions 1 and 2. In other words, DPE is congruent with experience beliefs and advertising is congruent with search beliefs. Conversely, advertising is not congruent with experience beliefs and DPE is not congruent with search beliefs. This "media congruence" terminology will be used in the explanations concerning how the information and focus of these different media influence belief strength, attitude strength and attitude-behavior consistency.

Feldman and Lynch: Accessibility and Diagnosticity

Feldman and Lynch (1988) state that the probability that an input will be used in a decision is a direct function of the accessibility and diagnosticity of that input and an inverse function of the accessibility and diagnosticity of alternative inputs. In the following experiment, the inputs of central interest are search and experience attribute information.

Accessibility is operationalized here as the amount of time it takes to retrieve an input from memory. It is logical to assume that accessibility of an available input is higher when more attention has been directed toward it. It is true that unavailability of an input would affect response time also.

Diagnosticity is the "degree to which the use of each type of information allows consumers to accomplish their

objectives in the particular decision task at hand" (Lynch, Marmorstein and Weigold, 1988, p. 171). In the following experiments, this definition will be operationalized as the perceived relevance and importance of an input in choosing among competing brands. For example, in purchasing a candy bar, "taste" is usually a more diagnostic (relevant and important) input than the color of the package. An input can be "important" but not relevant to the decision. For example, the manufacturer might be important to the "quality" of a candy bar but it might not be a relevant input used in choosing between candy bars. An input can also be relevant to purchase but not have a large importance weight. For example, the price of a candy bar could be relevant to the purchase decision but not be as important as the taste, ingredients and consistency-texture of the candy bar.

It should be noted that for Lynch et al.'s (1988) definition of diagnosticity, other constructs besides relevance and importance can influence "the use of each type of information (that) allows consumers to accomplish their objectives" (p. 188). For example, Chapter 2 cited Smith and Swinyard's (1982) model that proposes that belief strength (e.g., confidence) influences attitudes which in turn influence behavioral decisions. For the purposes of Experiments II and III, diagnosticity will always refer to the perceived relevance and importance of an input in making a decision about a product.

Diagnosticity, Belief Strength and Attitude Strength

AD and DPE each cause the consumer to focus attention on a different type of product attribute (see Chapter 2). If the attended attributes are not the diagnostic attributes of a particular product, then that medium is ineffective in producing strong beliefs concerning the important attributes relevant to the purchase decision. According to Smith and Swinyard's (1982) model described in Chapter 2, those weaker beliefs would lead to attitudes that are weakly held and are not predictive of behavior.

Experiment II presents a contingent view of media effects on attitude strength. It is proposed that DPE (or AD) produces strongly held attitudes, only if the diagnostic attributes are presented effectively by that medium. Since AD and DPE each have a weakness in presenting at least one type of attribute (i.e., search attributes for DPE and experience attributes for AD), neither AD nor DPE can always be superior in producing strong attitudes which predict behavior. When one attribute type is more diagnostic than the other, the medium which is most congruent with the dominant attribute type is more likely to produce strongly held attitudes predictive of behavior than the other medium.

When DPE focuses on non-diagnostic experience attributes, it is likely that attitude strength (e.g., attitude confidence) and attitude-behavior consistency will not be high. If AD focuses on diagnostic search

attributes, it is likely that those same measures will be high. This qualifies Smith and Swinyard's (1982) model of the links between medium, belief strength, attitude strength and behavior by focusing on whether the product attribute beliefs being communicated by the medium are diagnostic (relevant and important) to a product decision. When compared to DPE, if AD is more congruent with the diagnostic product attributes, then AD is likely to produce stronger attitudes and attitude-behavior consistency.

Feldman and Lynch (1988) would predict that weakly held attitudes are less likely to be used in a behavioral decision, because those attitudes are inferior inputs (i.e., non-diagnostic). This claim is based on the first part of their theory wherein an input will be used for a decision according to its diagnosticity and the diagnosticity of alternative inputs.

Belief and Attitude Accessibility

Another aspect of Feldman and Lynch's (1988) theory is that an input will be used for a decision according to its accessibility and the accessibility of alternative inputs. Hypothesis 4 in Experiment I predicted that search attribute beliefs are more accessible after AD than DPE, while experience attribute beliefs are more accessible after DPE than AD. If this is true, the medium of product exposure can influence which product attributes

are used in a product decision, because the medium influences attribute accessibility.

Fazio and Zanna (1981) review evidence that attitudes derived from direct experience are more predictive of behavior because they are more accessible. Fazio's later work (1986) presents a model and summary of empirical work supporting the notion that accessibility of an existing attitude increases the consistency between attitudes and behavior. This is related to Feldman and Lynch's theory, because it predicts that the attitude input is more likely to be used in a behavioral decision ("as a 'filter' through which the attitude object will be perceived" (Fazio, 1986, p. 212)) if it is highly accessible. When viewed from a broad perspective, media type can ultimately influence behavior by increasing or decreasing the accessibility of product attribute beliefs and the accessibility of product attitude.

Attitude Strength Dimensions

Past research including Fazio and Zanna (1981) implies that attitude strength dimensions like attitude confidence and resistance to attack are collinear and tap one basic construct: attitude "strength". This is the implied view in Smith and Swinyard's (1982) model which uses the terms "higher order" and "lower order" affect. This was described in Chapter 2. Smith and Swinyard (1983) operationalized this terminology using attitude confidence and attitude extremity, but they admitted that

specific constructs discussed by Fazio and Zanna (1981) could be at work making affect of "higher order". Smith and Swinyard's use of the term "higher order" or "lower order" can include attitudes' confidence, accessibility, persistence over time, clarity and resistance to attack. Experiment II attempts to peel apart the competing influences of attitude confidence, accessibility, extremity and media type by placing them in one statistical model. This is consistent with Raden's (1985) work that found that attitude strength is multidimensional (see Chapter 2).

In the past, attitude confidence and accessibility have been proposed as separate moderators of A-B consistency, despite the fact that they are often assumed to be highly correlated. Experiment II addresses the theoretically interesting question of whether the influence of attitude accessibility, confidence and extremity really represent three different constructs.

Summary

In this chapter, Feldman and Lynch's (1988) framework explains how accessibility and diagnosticity govern the use of product attribute information derived from the two media of interest. Hypotheses 4 and 8 from Experiment I concerned media effects on the accessibility of belief and attitude inputs. These relate to the accessibility portion of Feldman and Lynch's theory. Media type can ultimately influence consumer behavior by increasing or

decreasing the accessibility of attribute beliefs of a particular type and the accessibility of product attitude.

The most important focus of Experiment II is how diagnosticity influences the superiority of one medium over another. It is proposed that the superiority of DPE (or AD) in presenting the benefits of a product depends on the media congruence of the diagnostic attributes. If the medium highlights only non-diagnostic attributes, the confidence and accessibility of the important and relevant attribute beliefs will be low. Feldman and Lynch's theory would predict that the less diagnostic information presented by that medium is less likely to be used in an attitudinal or behavior decision. Attitude strength and A-B consistency will be low when media congruence is low, because the product attitude is based on diagnostic information which was not presented well. Experiment II replicates predictions from Experiment I and examines media effects on belief and attitude strength at different levels of attribute type diagnosticity.

Hypotheses

Confidence Hypotheses

Nelson (1970, 1974) proposed that direct personal experience is the only way to gain veridical information concerning the experience attributes of a product. Using cognitive response data, Experiment I showed evidence that different media (AD or DPE) direct attention to different

types of attributes (search or experience respectively) when both types of attribute information are available in each medium. If the media format is of the type which directs attention to one type of attribute and away from the other, it follows that the individual will have different levels of confidence concerning the two types of attributes.

Experiment II-Hypothesis #1 (EIIH1): Attribute type and media type interact in their effects on important belief confidence. Specifically, important search belief confidence is higher after AD exposure than after DPE and important experience belief confidence is higher after DPE than after AD exposure.

This prediction contradicts the conventional wisdom that the beliefs derived from DPE are held with more confidence (i.e., Marks and Kamins, 1988; Smith and Swinyard, 1988). This hypothesis makes the same prediction as H3 in Experiment I, but it will be tested in a different way in Experiment II.

If the media format is of the type that directs attention to one type of attribute and away from the other, it also follows that the individual will have different levels of accuracy in encoding the two types of attributes.

EIIH2: Encoding accuracy concerning important search attributes is higher for AD (accuracy cannot be measured for experience attributes).

This is identical to H5a in Experiment I and is similar to EIIH1 in predicting that beliefs derived from DPE are not always superior in strength.

Belief Importance as an Additional Variable in the Model

Based on Smith and Swinyard's (1982) model, confidence in one's overall attitude depends on one's confidence in its component beliefs. An examination of data in Experiment I showed that belief confidence was significantly related to attitude confidence. Though not explicit, Smith and Swinyard's model assumed that the product beliefs were important or diagnostic, because confidence in unimportant beliefs (e.g., color of package) would not significantly affect product attitude confidence. A more accurate prediction would be the following: if there is little confidence in the relevant and important product attribute beliefs, then one's attitude toward the product will be held with little confidence.

EIIH3: Confidence in attribute beliefs weighted by the beliefs' importance (diagnosticity) is significantly related to attitude confidence.

By definition, trivial attributes are not important to the product choice decision. It is assumed that an individual can decide not to pay attention to an attribute because it is too trivial. Because of this inattention, the individual can have extreme lack of confidence in his or her belief regarding such an attribute.

The consumer's judgment about the importance of a medium's highlighted information influences whether s/he decides to pay attention to it. For example, if an ad emphasizes net weight, ingredients, nutrition and calories

(search attributes), but the consumer thinks that these search attributes are unimportant, the consumer will not attend to this information. If asked about these attributes later, the consumer could be very unsure of him or herself in answering. The end result is that the advertisement would not be effective in presenting that particular attribute type. This describes how attribute type diagnosticity (importance) can influence how well a medium communicates the attribute type. Because of this, Propositions 1 and 2 assume that diagnosticity is held constant when they say that AD and DPE influence the relative communication of search or experience information.

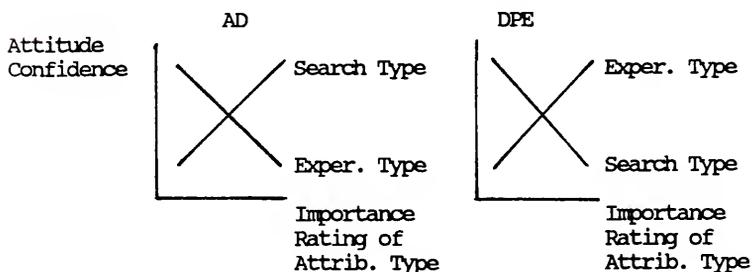
All of the above dealt with the effective communication of product attribute beliefs. When the above belief effects are combined with the proposition that belief confidence influences attitude confidence (see H3), a two-way interaction results:

EIIH4: Media type, attribute type and importance (diagnosticity) of media type interact in their effect on attitude confidence. 1) For AD exposure, when search attributes are more important, attitude confidence is higher. 2) For AD exposure, when experience attributes are more important, attitude confidence is lower. 3) For DPE exposure, when search attributes are more important, attitude confidence is lower. 4) For DPE exposure, when experience attributes are more important, attitude confidence is higher.

AD highlights search attributes and does not convincingly convey information about experience attributes. The more important the consumer perceives

those experience attributes to be, the lower attitude confidence will be for AD than DPE. The more important the consumer perceives those search attributes to be, the higher attitude confidence will be for AD than DPE.

Conversely, in the DPE condition, when the importance of experience attributes is increased, attitude confidence increases when compared to AD. When the importance of search attributes is increased, attitude confidence decreases relative to AD. In visual form:



Sample and Warland (1973), Fazio and Zanna (1978 a,b), and Smith and Swinyard (1983) found empirically that attitude confidence is an important moderating influence on attitude-behavior (A-B) consistency: when attitude confidence increases, then attitude-behavior consistency increases. If one views belief confidence as a major factor in attitude confidence (from H3), then:

EIIH5: The correlation between attitude and behavior is higher when belief confidence is increased.

The following hypothesis assumes that attitude confidence is directly related to attitude-behavior

consistency. Also, the hypothesis is identical to EIIH4a except that "A-B consistency" is substituted for the term "attitude confidence".

EIIH6: Media type, attribute type and importance (diagnosticity) of attribute type interact in their effect on A-B consistency: 1) For AD exposure, when search attributes are more important, A-B consistency is higher. 2) For AD exposure, when experience attributes are more important, A-B consistency is lower. 3) For DPE exposure, when search attributes are more important, A-B consistency is lower. 4) For DPE exposure, when experience attributes are more important, A-B consistency is higher.

This hypothesis is important because it traces the effects of different media, changes in attribute type importance and changes in attitude level on the dependent variable, behavior, and not on an intermediate construct.

Belief Accessibility

Using cognitive response data, Experiment I showed evidence that different media (AD or DPE) direct attention to different types of attributes (search or experience respectively) when both types of attribute information are available in each medium. If the media format is of the type that directs attention to one type of attribute and away from the other, it follows that the individual will have different levels of accessibility from memory concerning the two types of attributes. Belief response time is longer when the media type is not congruent with the type of product attribute.

EIIH6: Attribute type and media type interact in their effects on important belief accessibility. Specifically, important search beliefs are more accessible after AD exposure than after DPE and

important experience beliefs are more accessible after DPE than AD exposure.

Important search belief retrieval from memory is quicker after AD because AD is better at communicating the important search attributes. Experience belief accessibility is greater for DPE because DPE is better at communicating the important experience attribute beliefs. This is a repetition of EIH4 and is similar in rationale to EIIH1 concerning the confidence in beliefs derived from AD and DPE.

The Moderating Role of Attitude Accessibility: Two Mechanisms

As discussed in Chapter 2, attitude accessibility has been linked statistically to increased A-B consistency in non-marketing settings (Fazio et al., 1982; Fazio and Williams, 1986; Fazio et al., 1989). (As discussed in Chapter 2, the Fazio et al. (1989) study was not really in a marketing setting.) In a marketing setting, Berger and Mitchell (1989) made the theoretical link but did not report any empirical test of this relationship.

EIIH7: The correlation between attitude and behavior is higher when attitude accessibility is increased.

Fazio (1986) describes one view of how attitude accessibility increases A-B consistency (see Chapter 2). The basic mechanism is that after the attitude toward the object is accessed from memory, a person subjectively perceives both the object and behavioral event in a manner consistent with one's attitude. These more attitude-

consistent thoughts in turn guide behavior and make A-B consistency more likely.

An alternative description of how accessibility influences A-B consistency mirrors a part of Feldman and Lynch's (1988) theory wherein inputs are used in a decision according to their accessibility and diagnosticity. In this case, an attitude is more likely to be used for that decision if it is highly accessible and if it is more accessible than alternative inputs. Also, the attitude is more likely to be used if it is judged as highly diagnostic and more diagnostic than alternative inputs.

For example, in buying a product, the product attitude might not guide purchase because a competing situational input like convenience is more accessible. In another case, if a situational input like children whining is quite accessible and palpable, it could still be judged non-diagnostic (unimportant) to the ultimate product decision. In these two cases, Fazio's (1986) notion that an attitude "biases" (p. 212) input perceptions is not involved. Instead, the relative accessibility and diagnosticity of competing inputs governs the ultimate judgment.

Conclusion

Whatever the mechanism involved, accessibility plays an important role in the above two theoretical explanations of how attitudes guide behavior. Experiment

II examines at media effects on belief and attitude accessibility and confidence. The second part of Feldman and Lynch's (1988) theory dealing with diagnosticity is also considered in Experiment II. The effects of attribute type diagnosticity on attitude confidence and attitude-behavior consistency are examined.

Experiment II repeats some of the basic predictions from EI that use Propositions 1 and 2 as their theoretical foundation. A number of methodological shortcomings in Experiment I are addressed in the design of Experiment II.

Method

Pretesting

The products pretested in Experiment II were a daily memo calendar from another university, a "staged leads" pencil from another country and a candy bar being test marketed in another region of the country. The memo calendar was deemed unsuitable before the main experiment, so its pretesting alongside the other two products will not be described. The candy bar used in Experiment II was the same brand and price as the one used in Experiment I but was larger and slightly different.

As discussed earlier in Chapter 3, in a comparison of AD and DPE, it is important to equate the amount and content of information available from each medium. In this research, an attempt was made to equalize DPE and AD as much as possible, by specially constructing an

advertisement for each product using the following extensive pretesting. The procedure was similar to that used in Experiment I.

Despite its previous pretesting in Experiment I (Chapter 3), the candy bar ad was tested alongside the pencil. 17 Ss were used in the first round of the candy bar pretest, 14 in the second round and 25 in the third. These rounds were monitored for any necessary changes in the candy bar ad from Experiment I. Subjects were recruited from an introductory marketing course and given extra credit in their course in return for their participation.

The first round in designing and pretesting the pencil advertisement began with subjects using the pencil and inspecting a point-of-purchase display. A pencil display was supposed to act as a surrogate for a package and is common in the sale of pens and pencils. Twenty-one subjects wrote the thoughts they had while they were sampling the product. Two subjects indicated that they had seen the brand name before. The subjects listed the important attributes they would use in choosing between the product and other products in its same product class. They then weighted them according to their relative importance. The modal cognitive responses and important attributes were then translated into copy for a print ad.

In the second round of pretesting, a test ad for the pencil was given to 15 new subjects who gave their written

cognitive responses (CRS) to the ad. The data were deleted from the analysis for one subject who indicated that s/he had seen the pencil or its brand name before. Semantic differential measures of attitude, confidence in that attitude, belief questions and confidence in those beliefs were also elicited. In addition, the amount of money at which the subject would be indifferent between four pencils and cash was elicited in order to pretest the behavior measure which was to be used in the final experiment. The test ad was modified based on the CRS and attitude response.

In the third round of pretesting, 25 subjects (23 could be used) sampled the pencil or saw the ad. Attitude, attitude confidence and the amount of money at which the subject would be indifferent between four pencils and cash were elicited. In order to pretest H1, the subjects were asked to rate how certain they would be about product attribute beliefs if they had been given a 1½ minute sampling alone and if they had been given a 1½ minute advertising exposure alone. The ad was not altered after this third round.

As in Experiment I, the visual appearance of each ad was deemed important for realism and because of peripheral processing considerations involved in forming an attitude toward the advertisement (see Lutz, 1985). It is possible that subjects exposed to unrealistic ads would be more likely to regard the experiment as a game. Like

Experiment I, the full color advertisement matching the red, white and blue color scheme of the candy bar package included parts of the package. The pencil ad was extremely similar to the pencil's point-of-purchase display in color and appearance. The price of the pencil was placed on the display and on the pencil itself. This helped compensate for any disadvantage DPE might have in presenting the very important search attribute of price.

Main Study

Subjects and basic design. The main experiment consisted of a mixed three-factor design with type of exposure (i.e., AD or DPE) crossed with the two different products (i.e., candy bar or pencil). Type of exposure, and type of product were within-subjects factors, while order of exposure was a between-subjects factor. The order of exposure was counterbalanced so that each subject was exposed to AD (or DPE) for one product and then DPE (or AD) for the other product. Each subject was exposed to pencil AD-candy DPE, candy DPE-pencil AD, pencil DPE-candy AD or candy AD-pencil DPE. Because of a candy bar supply problem, five of the subjects used were given one-half of a candy bar with a whole wrapper instead of the whole bar. A comparison of this group's mean and the rest of the subjects' mean on product size variables revealed non-significant differences. This small group's data were retained in the analyses.

Thirty different time slots were attended by 74 subjects, thus making the average attendance equal to 2.47 subjects per session. Twelve of these subjects were overexposed to one or both of the products, because they had seen it before or were exposed to it too long during the experiment. These subjects were deleted from all analyses because of the heavy reliance on repeated measures in the experiment. One subject worked on a section of the questions during and/or after the debriefing, so that subject's data was eliminated for that section of data. A diskette copying error eliminated some of the data for one subject.

Main study procedure. Part of the cover story for the experiment stated that it was a test market study involving "a (product) which is going to be test-marketed soon in (state)". For the pencil, subjects were also told that the pencil is distributed in Canada. Subjects were told explicitly, "Your task today is to evaluate the product." This last phrase was an attempt to make the subjects form an attitude so that the attitude response time (RT) measure could be interpreted as attitude accessibility and not as attitude availability. Within the computer questionnaire, an attitude elicitation before the final attitude RT measure also helped insure that attitude availability was not being tapped (see Fazio, Lenn and Effrein, 1984).

The subjects viewed the ad (or sampled the product) for one and one-half minutes. Subjects then answered questions about the product on the computer. This was repeated using the other treatment, DPE (or AD) for the second product. Following this, subjects gave importance weights for 14 attributes of the first product and then 14 attributes of the second product. The subjects were debriefed and asked not to discuss the purpose of the study with anyone in the class who might participate in the study.

In order, the question groups concerned product evaluation and confidence in that evaluation, belief levels and confidence in the levels, choice between receiving the product or a sum of money and attribute importance ratings. Demographic questions were interspersed among the above questions. Subjects were unaware that the computer was automatically timing many of their responses.

Questions and Measures

Product quiz design. For each product, fourteen important beliefs were gathered from the pre-testing process described earlier in which subjects sampled the product or saw an advertisement. The questions in the product attribute beliefs group were of two types. For more subjective attributes including most of the experience attributes, questions had the following general form: "Concerning (product) in general, how (attribute) is

this (product)?- not at all (attribute)... extremely (attribute)" on a 7 point scale. After the 1-7 scale attribute question, subjects were asked how certain they were about the accuracy of their judgment (not at all certain... extremely certain) on a 7 point scale. Having subjects state the level of more subjective attributes circumvented having the experimenter frame the product for the subject. The confidence scale applied to the actual perceived attribute level not a contrived one.

For the more objective search attributes (e.g., color, price, ingredients), true-false type answers were elicited instead of using the 1-7 scales and multiple-choice questions used in Experiment I. Subjects were then asked how certain they were of each answer using the confidence scale described above. In using 1-7 scale questions in Experiment I, subjects could know the exact level of the search attribute (e.g., that the product cost 40 cents) but not know how to use the 1-7 scale (e.g., confusion as to whether it is "not at all expensive... extremely expensive" for candy bars or for products in general; wondering where other people would put 40 cents on the 1-7 scale). The search belief confidence results in Experiment I were at least partly explained in Chapter 3 by this subjective (and perhaps confusing) measurement of some objective attributes like price, nutrition information, and calories.

It is likely that the multiple choice question response times in Experiment I measured how long it took a subject to eliminate the other possible choices in addition to the time it took to access the belief from memory. True-false type questions in Experiment II were less complex and had less of this contamination. This might explain the lack of statistical significance in the test of Proposition 2 in Experiment I for search belief accessibility.

Attitude measures. Two attitude response measures were taken. The first measure was the true or false answer to "You think this (product) is very appealing". Because of the questionnaire's design, subjects often pressed the wrong key ("enter" instead of a number) in responding to this particular question. Because of this problem, the response and attitude response time (RT) for this question was deemed less reliable. The question was still valuable in forcing the construction of an attitude so that attitude accessibility not availability was more likely to be tapped later on.

Soon after this first attitude question were two attitude 1-7 bipolar semantic differential scales: good-bad, like-dislike. The order of the negative and the positive poles was rotated to keep subjects from keying the same number all the way through. The Cronbach alpha value of this attitude measure for the candy bar was .83; for the pencil it was .79. The attitude accessibility

measure was an average of the response times for the two semantic differential attitude measures.

Other measures. Attitude confidence was measured using the question, "The above ratings concerned your feelings about the (product). How certain are you that the ratings you gave were accurate?" (not at all certain... extremely certain) on a 1-7 point scale.

Both the pencil and candy bar cost 40 cents, so the behavioral choice measures for the two measures were assumed to be comparable. Behavior was measured using this question for each product: "If you were given the choice of receiving 4 candy bars (pencils) (retail value \$1.60) or \$1.30, which would you choose?". The dollar amount was set moderately lower than the retail value of the product, because subjects have a higher utility for money due to its greater flexibility in use. It should be noted that the "if" in the question indicated that the subjects did not actually receive the money or product.

In measuring attitude-behavior consistency, the average of the two semantic differential scales was dichotomized into two parts, "low" and "high" with neutral values (i.e., with the score of "4") deleted from the analyses. This was done, because the behavior measure was dichotomous with no neutral response. High A-B consistency was present if the product attitude score was "high" and the product was chosen or if the attitude was "low" and the money was chosen. Low attitude-behavior

consistency was present with the two remaining combinations.

As in Experiment I, a baseline response time measure for each subject was used to remove extraneous variance in some of the analyses involving accessibility. This baseline was the average response time to questions concerning the individual's sex and age.

Differences between Experiments I and II. Though many of the outcome dependent variables in Experiment I and Experiment II were the same, some subtle and not so subtle changes were made in the two questionnaires. An important change was in the measurement of belief accuracy, accessibility and confidence. In Experiment I, multiple-choice questions and a larger number of 1-7 semantic differential questions were used to tap search attribute beliefs, while in Experiment II, true-false type questions were mainly used to measure those beliefs. It should be noted that three of the 1-7 semantic differential measures concerning beliefs were categorized as measuring search beliefs in Experiment II (see next section).

It is likely that each multiple choice question's response time in Experiment I measured how long it took a subject to eliminate the other possible choices on top of the time it took to immediately access the belief out of memory. In Experiment II, true-false type questions were less complex and had less of this contamination. The

belief confidence measures in Experiment I were entirely in response to the 1-7 scale search attribute questions, while Experiment II used belief confidence measures for the 1-7 scale questions and the true-false questions. Experiment II had less of the scale use confusion discussed earlier, because a greater percentage of the objective search attribute questions were of the true-false type.

Another significant difference between the two experiments was that Experiment I had free elicitation of important attributes while Experiment II listed 14 attributes for each product and had subjects weight these attributes as to their importance. This was necessary to weight these 28 attributes' corresponding belief confidence measures.

In Experiment II, the use of two products for each subject instead of one served a number of purposes. It allowed the partialling out of individual subject influence and it increased the statistical power to detect significant differences. In addition, it increased the external validity of the study in that the results applied to more than one product.

Except for the use of two products, the instrument in Experiment II was basically simplified and pared down when compared to Experiment I. Cognitive responses, the Betts QMI Vividness of Imagery Scale (Richardson, 1969), individual belief evaluations, attitude toward purchase,

purchase intentions and product class involvement were among the important deletions in Experiment II. It is likely that the simpler questionnaire in Experiment II led to less subject fatigue, error and random response.

Analysis and Results

Methods of Analysis

In order to test H1, H2, H4, H6 and H7 in Experiment II, each of the product attributes used in the questions was categorized as being a search or an experience attribute by two judges. The coders' judgments were then compared; if there was a disagreement, a third judge broke the tie. There was agreement on 25 out of the 27 judged attributes (92.6%). Table 9 shows the categorization of the product attributes.

Because all subjects in the experiment were exposed to two products, most of the hypothesis tests contained repeated measures (e.g., subject #10's belief accuracy for the candy bar AD and subject #10's belief accuracy for pencil DPE). Unless otherwise indicated, all of the hypothesis tests were performed with both products together.

In all tests except the attitude-behavior consistency tests, all possible media type, product, ordinal position effects (this includes interactions among these three effects) and their interactions with the effects of interest (e.g., the interaction of product, ordinal

Table 9

Categorization of Product Attributes Using
Independent Judges' Coding

Candy Bar	
Experience Attributes	Search Attributes
chewy	attractive (not package)
fattening	how large
sweet	cost
healthful	has caramel
rich	has milk chocolate
crunchy	has peanuts
delicious	number of calories

Pencil	
Experience Attributes	Search Attributes
sharpening ease	attractive
long-lasting supply of lead	cost
comfortable writing	design of lead supply
writes smoothly	color
erases well	doesn't need a pencil sharpener
durable	has a cap
reliable points	type of lead (e.g., #2)

position, and attribute type in their effect on belief accessibility) were included in the model testing the hypothesis. This was labelled as a "MAX" model.

A "MIN" model was used to perform each attitude-behavior consistency hypothesis test. This included all possible interactions among the variables within the effect of interest, and all possible interactions among

the manipulated variables (i.e., media type, product and ordinal position).

The MAX model could not be used for the A-B analyses for a number of reasons. With the hypothesized A-B moderation tests, more than one non-manipulated independent variable was in the model (e.g., attitude and attitude confidence- the moderator variable of interest). When all possible interactions of these two (not one) variables and the manipulated variables of treatment (AD or DPE), product and ordinal position were put in a model, the number of terms in the model became enormous relative to the cell sizes and statistical power became a problem. The sheer size of the model was also impractical. In the tests not involving attitude-behavior consistency, there was only one non-manipulated independent variable in the model (e.g., attribute type) so this was less of a problem and a MAX model could be used.

In all of the reported tests except one, higher order interactions of the hypothesized effect and artifactual variables were tested. These interactions were the interaction of ordinal position with the effect of interest and the interaction of product type with the effect of interest. A MAX type model was used in testing for these higher order interactions. Because the MIN model did not contain all of these higher order interaction tests, testing for those higher interactions was done using a MAX model, even when the final hypothesis

tests used a MIN model. The one time where there was no testing for higher order interactions was in the case where four attitude-behavior moderators were placed in one model. Testing for all of the possible higher order interactions in that case would have necessitated the use of a large and impractical model.

In summary, all of the models used in the experiment were MAX models except the final tests of the attitude-behavior consistency effects. An acceptable ratio of cell size to estimated effects is an important justification for this small exception. Because so many of the tests were directional, all reported p values for the t-tests were one-tail probabilities unless indicated. Unless shown in a chapter table, Appendix G shows means and the sum of squares tables used to perform important hypothesis tests in Experiment II.

Confidence Measure Results

H1 in Experiment II (i.e., IIH1) predicted the interaction of attribute type with media type in their effect on belief confidence. With attribute type decided by independent judges, the confidence in each of the beliefs of each type were averaged together to yield a composite attribute confidence score for each attribute type. An analysis of these scores for both products together supported the hypothesis. The slope of the attribute type X medium interaction term was significantly different from zero ($t(54) = 4.51, p < .0001$). As

Table 10

Experiment II: Means (Standard Deviations) and t-tests* of Differences Between AD and DPE

Dependent Variable	AD	DPE	AD=DPE?
Belief confidence			
Experience	5.20 (1.42)	5.74 (.96)	t=3.30, p<.0009
Search	6.51 (.50)	6.17 (.70)	t=3.52, p<.0005
Belief accessibility			
Experience	6.88 (2.47)	6.85 (2.30)	t=.20, p<.42
Search	4.39 (1.36)	4.75 (1.53)	t=2.30, p<.01
Belief encoding accuracy			
Search	9.58 (.78)	8.72 (1.35)	t=5.13, p<.0001
Attitude confidence			
	5.93 (.89)	6.29 (1.03)	t=2.46, p<.01
Attitude accessibility (in seconds)	6.98 (2.66)	6.77 (2.70)	t=.77, p<.22

* one-tail t-tests of the difference between the beta coefficients for AD and DPE in a MAX model; n= 118 or 120.

predicted, experience attribute belief confidence was greater after DPE than after AD ($t(55) = 3.30, p < .0009$) and search attribute confidence was greater after AD ($t(54) = -3.52, p < .0005$). Table 10 shows the means and t-test statistics for differences between AD and DPE concerning each attribute type for this dependent variable and others in Experiment II. Appendix G shows means and

the sum of squares tables used to perform this and other important hypothesis tests in Experiment II.

IIH2 predicted that the search attribute true-false quiz score would be higher for AD than DPE. This was supported with $t(55) = 5.13, p = .0001$.

IIH3 predicted that attitude confidence was significantly related to confidence in product attribute beliefs weighted by their importance. With both products put together, the partial correlation of belief and attitude confidence was .30 ($p < .01, df = 53, n = 116$) and their simple Pearson correlation coefficient was .35 ($p < .0001, n = 116$). The main effect of individual subjects and all possible product, treatment, and ordinal position effects (this includes interactions) were partialled out of both variables for the partial correlation.

Attribute Diagnosticity and Attitude Confidence Results

IIH4 predicted that attribute diagnosticity (relevance and importance) moderates the effects of media congruence on attitude confidence. In statistical terms, the test involved the interaction of attribute type importance weight and media type. To test the significance of this interaction, a variable was created which consisted of the difference between the attribute importance ratings for the search attribute and the experience attribute classifications. If this variable was negative, this meant search attributes were more important than experience attributes. If it was positive,

this meant experience attributes were more important. This hypothesis made no prediction about AD or DPE effects when this variable was equal to zero. The idea was that when experience and search attributes were equally important, AD and DPE did not have a differential impact on the communication of search and experience attribute information. Because of this, when the difference variable equaled zero, the observation was deleted from the analysis.

Because of a higher order interaction of product with the hypothesized effect ($t(32) = 1.73$, two-tailed $p < .09$), the test of IIH4 was performed for each product separately. For the candy bar, the hypothesis was significantly supported ($t(39) = 1.73$, $p < .05$). For the pencil, the hypothesis was directionally supported ($t(44) = .52$, $p < .30$). It should be noted that statistical significance was difficult to reach for this test, because of the small sample size ($n = 53$). In summary, IIH4 was significantly supported for the candy bar and directionally supported for the pencil. Table 11 illustrates these results.

The Moderating Role of Confidence

IIH5 predicted that increasing belief confidence weighted by importance increases attitude-behavior consistency. This makes no prediction for neutral attitudes when behavior is positive or negative. Because of this, subjects with neutral attitudes were deleted from

Table 11

The Interaction of Attribute Type Importance* and Media Type in Their Effects on Attitude Confidence

Dependent Variable: Attitude Confidence

	Candy Bar		Pencil	
	AD	DPE	AD	DPE
SEARCH	5.79	5.82	6.00	6.00
cell size	(14)	(11)	(8)	(7)
MOST IMPORTANT				
ATTRIBUTE TYPE*				
EXPERIENCE	5.90	6.46	5.89	6.50
cell size	(10)	(13)	(18)	(20)

General Linear Model Procedure: Candy Bar

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	r ²
Model	7	15.8537	2.2648	2.05	.07	.26
Error	40	44.1463	1.1037			
Corrected Total	47	60.0000				

SOURCE**	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Importance	1	.0742		
Media	1	.8691		
Importance X Media	1	3.2883	1.73	.05
Firstcon	1	6.9806		
Importance X Firstcon	1	7.8090		
Media X Firstcon	1	.0127		
Impor X Media X Firstc	1	.7857		

General Linear Model Procedure: Pencil

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	r ²
Model	7	9.5440	1.3634	1.85	.10	.22
Error	45	33.2485	.7389			
Corrected Total	52	42.7925				

Table 11-continued

SOURCE**	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Importance	1	.0291		
Media	1	1.0210		
Importance X Media	1	.1962	.52	.30
Firstcon	1	.1015		
Importance X Firstcon	1	.1935		
Media X Firstcon	1	.5768		
Impor X Media X Firstc	1	.0835		

* Attribute type importance was dichotomized only to illustrate the direction of the results in this table. In the analyses, a continuous variable was used which consisted of the difference between the total weightings of experience and search attributes.

** An explanation of some of these effects is in Appendix F.

the data testing this hypothesis. Because choice was a dichotomous variable, attitude was dichotomized in this and all other A-B tests in this experiment. Individual subjects' effect, and all possible product, treatment and ordinal position effects were partialled out of the belief confidence measure in order to gain a "purer" measure of this belief confidence variable. The resulting belief confidence residual was then placed in a MIN model that moderately supported IIH5's prediction that weighted belief confidence increases A-B consistency ($t(32) = 1.36$, $p < .09$)

IIH6 predicted that important attribute diagnosticity (importance) moderates the effects of media congruence on attitude-behavior consistency. In statistical terms, the

test involved the interaction of attribute type importance, media type and attitude in their effect on behavioral choice. As in IIH4, a variable was created which consisted of the difference in attribute importance ratings between the search attribute and the experience attribute classifications. When this variable was zero, the observation was deleted from the analysis. As in IIH5, observations with neutral attitudes were also deleted because the hypothesis makes no prediction for neutral attitudes when behavior is positive or negative.

Because of an higher order interaction ($t(6) = 2.47$, $p < .04$) of product with the hypothesized effect, the test of H6 was performed for each product separately. (There was also a higher order interaction of ordinal position with the additional test of whether media type moderates A-B consistency $t(6) = 2.46$, two-tail $p < .04$.) Using a MIN model because it was the final A-B test, the hypothesis was moderately supported ($t(28) = 1.33$, $p < .10$) for the candy bar. In this same model, A-B consistency was moderately higher after AD than after DPE ($t(28) = -1.45$, one-tail $p < .08$). A one-tail test was used for this test because so many past works have predicted that A-B consistency would be higher for direct experience than indirect (Berger and Mitchell, 1989; Fazio and Zanna, 1978b; Regan and Fazio, 1977; Smith and Swinyard, 1983), which is a directional prediction.

For the pencil, the hypothesis was directionally supported ($t(29) = .56, p < .29$). In this same model, A-B consistency was slightly higher after AD than after DPE ($t(29) = -.66, \text{one-tail } p < .26$). It should be noted that the power to detect significant differences was quite low for these two tests ($df = 28$ and $29; n = 39$ and 40), which masks the large differences in the A-B correlations involved. Media effects on A-B consistency were not tested for each level of attribute type importance because the average cell size would have been so small (less than five subjects).

IIH6 was moderately supported for the candy bar, and directionally supported for the pencil. Similarly, A-B consistency was moderately higher for AD than DPE with the candy bar, and slightly higher for AD with the pencil. Table 12 illustrates these results.

Accessibility Measures

IIH7 predicted the interaction of attribute type with media type in their effect on belief response time. With attribute type decided by independent judges, the response times for the beliefs of each type were averaged together to yield a composite attribute accessibility score for each attribute type. An analysis of both products together supported the hypothesis ($t(54) = 1.66, p < .05$). Experience attribute beliefs had non-significantly lower belief response times after DPE ($t(54) = .20, p < .42$).

Table 12

Media Type and Media Type X Attribute Type Importance as Moderators of Attitude-Behavior Consistency

Dependent Variable: Correlation of Attitude (low-high) and Choice (\$ or product)

	Candy Bar		Pencil	
	AD	DPE	AD	DPE
SEARCH	.52	.00	.63	.00
cell size	(11)	(9)	(6)	(5)
MOST IMPORTANT				
ATTRIBUTE TYPE*				
EXPERIENCE	.40	.10	.48	.43
cell size	(7)	(12)	(12)	(17)

General Linear Model Procedure: Candy Bar

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	r ²
Model	9	2.4905	.2767	1.11	.38	.26
Error	29	7.2018	.2483			
Corrected Total	38	9.6923				

SOURCE**	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Importance	1	.5061		
Attitude	1	.1464		
Importance X Attitude	1	.2088		
Impor X Att X Media	1	.4416	1.33	.10
Importance X Media	1	.1911		
Attitude X Media Type	1	.5216	1.45	.08
Firstcon	1	.0059		
Media Type	1	.2833		
Media Type X Firstcon	1	.0578		

General Linear Model Procedure: Pencil

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	r ²
Model	9	2.8323	.3147	1.51	.19	.31
Error	30	6.2677	.2089			
Corrected Total	39	9.1000				

Table 12--continued

SOURCE**	DF	TYPE III	SUM OF SQ.	t	1-TAIL PROB>t
Importance	1		.0011		
Attitude	1		.0000		
Importance X Attitude	1		.0461		
Impor X Att X Media	1		.0644	.56	.29
Importance X Media	1		.0661		
Attitude X Media Type	1		.0908	.66	.26
Firstcon	1		.0009		
Media Type	1		.0819		
Media Type X Firstcon	1		.3651		

- * Attribute type importance was dichotomized only to illustrate the direction of the results in this table.
 ** An explanation of some of these effects is in Appendix F.

Search beliefs had significantly lower response times after AD than after DPE ($t(54) = 2.30, p < .01$).

IIH8 predicted that increasing attitude accessibility increases the likelihood that negative attitudes will produce negative behavioral response and positive attitudes will produce positive behavioral response (i.e., A-B consistency). Like H5, this hypothesis made no prediction for neutral attitudes when behavior is positive or negative. As in H5, subjects with neutral attitudes were deleted from the data and attitude was dichotomized. Because attitude accessibility and attitude polarity were significantly related in Powell and Fazio (1984) and in their own data, Fazio and Williams (1986) adjusted for the effects of attitude polarity in analyzing the moderating influence of attitude accessibility on behavior. Because of this concern, attitude polarity and its effect in moderating A-B

consistency (attitude X polarity) were included as covariates in the model testing IIH8.

Individual subjects influence and all possible product, treatment and ordinal position effects were partialled out of the two independent variable moderators, attitude accessibility and polarity, thus creating attitude accessibility and polarity residual variables. In addition, the response time baseline influence was partialled out of the accessibility measure. Because of the inherent variability in attitude response times, the accessibility residuals were also dichotomized into "low" and "high" accessibility with zero as the dividing point (the median residual was near zero). Using a MAX model with attitude polarity and attitude polarity X attitude as two additional covariates, higher order interactions of IIH8's effect with treatment, product and ordinal position were found to be insignificant. In the final test of the hypothesis, a MIN model with the two polarity effects as covariates was used. The slope of the attitude X attitude accessibility residual interaction significantly supported IIH8 ($t(31) = 1.93, p < .03$). Table 13 summarizes this and other hypothesis tests in Experiment II. As noted earlier, Appendix G-5 shows means and sum of squares tables for those tests.

Other Tests

A MANOVA of the belief strength variables was performed to see if the basic attribute type X media type

Table 13

Summary of Hypothesis Tests for Experiment II

Hypothesis	Result
H1-Attribute Type X Media Type Effect On Belief Confidence	YES, $t=4.51$, $p<.0001$
H2-Media Type Effect on Search Attribute Quiz	YES, $t=5.13$, $p<.0001$
H3- + Correlation of Weighted Belief Confidence and Attitude Confidence	YES, $r=.30$, $p<.01$
H4-Media Congruence of Important Attributes Increases Attitude Confidence	Candy Bar: YES $t=1.73$, $p<.05$, $n=48$ Pencil: NULL $t=.52$, $p<.30$, $n=53$
H5-Wgtd. Belief Confidence Moderates Attitude-Behavior Consistency	YES, $t=1.36$, $p<.09$
H6-Media Congruence of Important Attributes Increases Attitude- Behavior Consistency	Candy Bar: YES $t=1.33$, $p<.10$, $n=39$ Pencil: NULL $t=.56$, $p<.29$, $n=40$
H7-Attribute Type X Media Type Effect On Belief Accessibility	YES, $t=1.66$, $p<.05$
H8-Attitude Accessibility* Moderates Attitude-Behavior Consistency	YES, $t=1.93$, $p<.03$

* Because of inherent variability and high differentiation, accessibility values were dichotomized as "low" or "high". Polarity was also included in the model because of concerns raised in Fazio and Williams (1986).

interaction was similar across the belief strength measures. This type of analysis required that each belief strength construct have only one dependent variable represented in the model (i.e., no repeated factors in the model). In previous tests of this interaction, attribute type and media type were repeated factors and there were four dependent variables (one for each possible attribute type-media type combination). In the MANOVA analysis, media type was included as a two-level independent variable in the model. A dependent variable was created which consisted of the difference between experience and search attribute confidence. The same was done for belief accessibility. With this one belief confidence dependent variable and this one belief accessibility dependent variable, the test of the media type effect was actually the test of the media type X attribute type interaction. Using a MAX model, the MANOVA test of this effect for belief confidence and accessibility was significant ($F(2,54) = 10.15, p < .0002$).

For the rest of the MANOVA tests, no new dependent variables had to be created and MAX models were used. The MANOVA test of whether DPE produced stronger experience beliefs than AD was significant ($F(2,54) = 5.19, p < .009$), included belief confidence, and accessibility. A similar MANOVA test of whether AD produced stronger search beliefs than DPE was significant ($F(3,53) = 9.22, p < .0001$) and included belief confidence, accessibility and accuracy.

In this experiment, means of each belief confidence measure showed that subjects were more certain in their attribute beliefs after AD exposure than after DPE for 14 out of the 28 attributes (see Tables 14 and 15). Also, 17 out of the 28 beliefs were more accessible after AD than DPE (see Tables 14 and 15). Not all of these belief confidence and accessibility differences between AD and DPE were statistically significant. Showing the superiority of AD in communicating specific attribute beliefs is the first step in showing how beliefs and attitudes derived from DPE are not always superior.

Chapter 2 discussed Fazio and Zanna's (1981) review claiming that when compared to indirect experience, direct experience produces attitudes that are more highly accessible and more confidently held (see Chapter 2). The first prediction of higher accessibility was not replicated by Berger and Mitchell's (1989) study in marketing, the data in Experiment I and the data in this experiment study. Using a MAX model with media type as a repeated factor, attitude accessibility was non-significantly higher for DPE ($t(54) = .77$, one-tail $p < .22$). Using a similar model, confidence was greater after DPE than after AD ($t(54) = 2.46$, one-tail $p < .01$). In this experiment and that of Berger and Mitchell (1989), attitude confidence seemed to be a more robust indicator of DPE strength than accessibility.

Table 14

Confidence and Accessibility of Individual Candy Bar
Attribute Beliefs

n= 59

Belief Confidence (Standard Deviation)			
Attribute	AD	DPE	H : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
Chewy	5.07 (1.56)	6.17 (.87)	t=-3.32, p<.00
Fattening	6.00 (1.07)	4.77 (2.05)	t=2.92, p<.01
Sweet	5.24 (1.79)	6.00 (1.05)	t=-1.98, p<.05
Healthful	5.76 (1.15)	4.97 (1.77)	t=2.04, p<.05
Rich	5.10 (1.45)	5.97 (.96)	t=-2.69, p<.01
Crunchy	5.21 (1.74)	6.07 (1.01)	t=-2.31, p<.03
How delicious	4.69 (1.85)	6.27 (.78)	t=-4.23, p<.00
SEARCH			
Attractive	6.24 (.79)	6.23 (.68)	t=.04, p<.97
How large	5.41 (1.52)	5.67 (1.40)	t=-.66, p<.51
Expensive	6.69 (.89)	6.68 (.93)	t=.05, p<.96
Has caramel	6.90 (.31)	6.77 (.68)	t=.95, p<.35
Has milk chocolate	6.76 (.64)	6.00 (1.49)	t=2.56, p<.01
Has peanuts	6.66 (.61)	6.43 (.97)	t=1.05, p<.30
No. of calories	6.59 (.96)	4.75 (2.50)	t=3.74, p<.00

Belief Response Time (Standard Deviation)			
Attribute	AD	DPE	H : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
Chewy	8.49 (3.72)	7.34 (3.34)	t=1.25, p<.22
Fattening	6.25 (2.32)	9.32 (4.65)	t=-3.22, p<.00
Sweet	6.21 (3.08)	5.34 (2.46)	t=1.19, p<.24
Healthful	6.28 (2.99)	7.51 (3.34)	t=-1.48, p<.14
Rich	5.07 (2.79)	5.57 (3.09)	t=-.65, p<.52
Crunchy	4.87 (2.26)	4.90 (1.83)	t=-.06, p<.96
Delicious	4.29 (2.39)	4.85 (4.08)	t=-.65, p<.52
SEARCH			
Attractive	8.49 (2.91)	9.63 (4.71)	t=-1.13, p<.27
How large	7.43 (3.85)	6.43 (2.53)	t=1.17, p<.25
Expensive	3.02 (1.05)	3.34 (1.33)	t=-1.04, p<.30
Has caramel	2.32 (1.01)	3.29 (2.10)	t=-2.29, p<.03
Has milk chocolate	2.54 (2.07)	3.28 (1.49)	t=-1.57, p<.12
Has peanuts	2.27 (.98)	3.28 (2.58)	t=-2.00, p<.05
No. of calories	3.23 (1.71)	4.48 (2.64)	t=-2.16,

Table 15

Confidence and Accessibility of Individual Pencil
Attribute Beliefs

n = 59

Belief Confidence (Standard Deviation)			
Attribute	AD	DPE	H : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
sharpening ease	6.07 (1.28)	6.00 (1.63)	t=.18, p<.86
long-lasting supply of lead	5.70 (1.39)	5.10 (1.70)	t=1.48, p<.15
comfortable writing	5.03 (2.06)	6.31 (.81)	t=-3.16, p<.00
writes smoothly	4.83 (2.17)	6.48 (.69)	t=-3.97, p<.00
erases well	4.70 (2.38)	5.14 (2.05)	t=-.76, p<.45
durable	4.80 (2.25)	5.52 (1.55)	t=-1.43, p<.16
reliable points	4.50 (2.24)	5.48 (1.70)	t=-1.89, p<.06
SEARCH			
attractive	6.23 (.90)	6.52 (.78)	t=-1.29, p<.20
cost	6.29 (1.32)	5.77 (1.83)	t=1.25, p<.22
design of lead supply	6.33 (1.18)	5.83 (1.87)	t=1.24, p<.22
color	6.87 (.43)	7.00 (.00)	t=-1.68, p<.10
has a cap	6.67 (.96)	6.97 (.19)	t=-1.67, p<.10
doesn't need a pencil sharpener	6.87 (.43)	6.62 (.98)	t=1.24, p<.22
type of lead (e.g., #2)	6.67 (1.05)	5.22 (1.69)	t=3.91, p<.00

Belief Response Time (Standard Deviation)			
Attribute	AD	DPE	H : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
sharpening ease	11.82 (4.49)	11.62 (4.48)	t=.17, p<.86
long-lasting supply of lead	9.73 (5.92)	8.61 (4.07)	t=.85, p<.40
comfortable writing	8.69 (4.57)	6.29 (2.89)	t=2.42, p<.02
writes smoothly	6.78 (3.16)	5.72 (3.26)	t=1.28, p<.21
erases well	6.54 (2.80)	6.62 (2.76)	t=-.12, p<.91
durable	4.99 (2.16)	5.71 (2.89)	t=-1.08, p<.28
reliable points	6.12 (3.55)	6.65 (3.34)	t=-.59, p<.56

Table 15--continued

SEARCH			
attractive	7.17 (3.50)	6.28 (3.42)	t=.99, p<.33
cost	5.86 (2.88)	5.73 (1.93)	t=.21, p<.83
design of lead supply	4.56 (2.79)	4.40 (2.82)	t=.22, p<.83
color	3.47 (1.83)	2.94 (1.75)	t=1.14, p<.26
has a cap	3.34 (1.33)	3.54 (1.56)	t=-.54, p<.59
doesn't need a pencil sharpener	3.72 (1.58)	4.45 (3.12)	t=-1.12, p<.27
type of leads (e.g., #2)	3.95 (1.36)	5.38 (2.47)	t=-2.73, p<.01

In their 1983 work, Smith and Swinyard predicted that attitudes derived from DPE were more extreme than those derived from AD. Though Experiment I did not support this prediction, Experiment II did ($t(54) = 2.46$, one-tail $p < .01$).

Fazio (1986, p. 223) states: "Confidence and clarity may be both causes and consequences of attitude accessibility, as may be temporal stability." This implies that attitude response times (RT's) and confidence are correlated. Experiments I and II did not find a significant correlation. Experiment I found a Pearson correlation of .15 ($p < .10$). In Experiment II, attitude confidence and attitude RT had a Pearson correlation of -.11 (one-tail $p < .12$, $n = 118$) and a partial correlation of -.06 (one-tail $p < .32$, $df = 54$, $n = 118$) which had the influence of subjects and all possible treatment, product and ordinal position effects partialled out of both variables. Also, the RT baseline influence was

partialled out of the attitude accessibility variable for both correlations.

Aside from attitude accessibility and confidence, (unweighted) belief confidence was not correlated with (unweighted) belief accessibility. Their Pearson correlation was $-.10$ (one-tail $p < .14$, $n = 118$), and their partial correlation was $-.10$ (one-tail $p < .23$, $df = 54$, $n = 118$) which had individual subjects influence and all possible treatment, product and ordinal position effects partialled out of both variables. Also, the RT baseline influence was partialled out of the belief accessibility variable for both correlations.

Moderators of Attitude-Behavior Consistency

Regan and Fazio (1977), Fazio and Zanna (1978a) and Smith and Swinyard (1983) present support for the idea that attitudes derived from direct experience are more consistent with behavior than those derived from indirect experience. In this experiment, it was proposed that this moderating influence of media type interacts with attribute type importance (IIH6); therefore, the test of this single moderating influence was performed as a part of the test of IIH6. As described earlier, this experiment's results showed that A-B consistency was greater for AD than DPE for the candy bar ($t(28) = -1.45$, one-tail $p < .08$) with null results for the pencil ($t(29) = -.66$, one-tail $p < .26$).

Perhaps attitude-behavior consistency was higher for AD than for DPE, because so many attribute beliefs were more confidently held (and/or more accessible) after AD not DPE (Tables 14 and 15). The ratios of importance weights for search and experience attributes for the candy bar and pencil were 50.90 to 49.10 for the candy bar and 41.71 to 58.28 for the pencil. It should be noted that the candy bar had the higher importance weight for search attributes and had more statistically significant results concerning the test of whether AD had higher A-B consistency than DPE.

Chapter 2 discussed the most common attitude-behavior moderators which include media type, attitude confidence, accessibility and polarity or extremity. When these four moderators were entered as competing moderators in one MIN model for both products together, the difference between AD and DPE was statistically more significant ($t(28) = -1.53$, one-tail $p < .07$; see Table 16). This model used the attitude confidence residual from the H5 test, attitude accessibility residual from the H8 test, and the attitude polarity residual from the H8 test as independent variables. As in H5 and H8, this meant that the main effect of subjects and all possible ordinal position, treatment and product effects were removed from the confidence, accessibility and polarity dependent measures (using residualization) and removed from the dependent variable, choice (using the final test of the moderators'

Table 16

General Linear Model Procedure With Attitude Confidence, Attitude Accessibility, Attitude Polarity, and Media Type As Competing Moderators of Attitude-Behavior Consistency

Dependent Variable: Choice (1-Money or 2-Product)

	Attitude Confidence*		Attitude Access.		Attitude Polarity*		Media Type	
	low	high	low	high	low	high	AD	DPE
LOW	1.36	1.00	1.10	1.38	1.22	1.22	1.10	1.38
(N)	(11)	(7)	(10)	(8)	(9)	(9)	(10)	(8)
ATTITUDE								
HIGH	1.57	1.65	1.74	1.53	1.57	1.65	1.68	1.57
(N)	(30)	(46)	(31)	(45)	(30)	(46)	(34)	(42)

General Linear Model Procedure:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	p	r ²
Model	64	19.3026	.3016	2.17	.01	.83
Error	29	4.0272	.1389			

Total	93	23.3298				

MODEL:

SOURCE**	DF	TYPE III SUM OF SQ.	t	1-tail PROB>t
Attitude	1	.1001		
Attitude Confidence	1	.8035		
Att. Confidence X Att.	1	1.0151	2.70	.006
Attitude Access	1	.0428		
Att. Access X Att.	1	.6602	2.19	.02
Polarity	1	.3499		
Att. Polarity X Att.	1	.5908	2.06	.02
(Media Type, Position and Product Effects:)				
Media Type X Att.	1	.3252	-1.53	.07
Media Type	1	.1237		
Firstcon	1	.2354		
Firstcon X Media Type	1	.1861		
Prodcon	1	.1163		
Prodcon X Media Type	1	.0234		
Firstcon X Prodcon	1	.0127		
Firstc X Prodc X Media	1	.0211		
Subjects(Firstc Prodc)	49	12.9528		

* This variable was a continuous variable in the analyses.

** See Appendix F for an explanation of the model's effects.

effects); thereby creating a more precise test of these moderators' effects. Using the one model, attitude confidence, accessibility, polarity and medium each had a significant or marginally significant moderating effect (one-tail p values= .01, .02, .02, and .07 respectively in Table 16). It should be noted that these differences reached significance in spite of the small sample size ($n=94$, $df=28$).

This last analysis used both products together which made the ratio of importance weights 46.31% search and 53.69% experience attributes. Such an even ratio would mean that DPE had no significant advantage in presenting the product attributes. This last result where A-B consistency was higher for AD than DPE is truly unique compared to past empirical works that have not predicted or demonstrated that A-B consistency could be higher for indirect experience. This is evidence for the contingency that DPE is superior to AD only when a large proportion of a product's diagnostic attributes are experience attributes.

Discussion

Tests of Propositions 1 and 2

The experience attribute and search attribute belief confidence measures were significantly higher for DPE and AD respectively. These results support Propositions 1 and 2. This is an improvement over Experiment I which had

less consistent results that were not always statistically significant. This improvement could be attributed partially to the changes in the measurement of search attributes discussed earlier.

Experience attribute and search attribute belief accessibility measures were directionally higher for DPE and AD respectively. The only result that was not significant was the difference between AD and DPE for experience attributes. It should be noted that the accessibility of search attributes was significantly higher after AD not DPE. For all three variables-accuracy, confidence and accessibility- AD was significantly superior to DPE in communicating search attribute beliefs. Proposition 2 was thus completely supported in Experiment 2. The seemingly more tautological Proposition 1 which predicts the superiority of DPE in presenting experience attributes was supported but not as strongly as the more counterintuitive Proposition 2.

A Review of Experiments I and II

Table 17 shows a brief summary of results from Experiments I and II. Taken together, the two experiments present strong evidence for Propositions 1 and 2. Results for three of four dependent variables support Proposition 1 which concerns the superiority of DPE in communicating experience attributes. Results for six of seven dependent variables support Proposition 2 which concerns the

Table 17

Summary of Results from Experiment I (EI) and Experiment II (EII): Cognitive Variables

Proposition	Result Supports Proposition?, Signif. Level
PROPOSITION 1: DPE IS MORE EFFECTIVE IN PRESENTING EXPERIENCE ATTRIBUTES THAN AD.	
proportion of experience attribute CRS	EI: YES, $p < .0001$
experience attributes as a proportion of the important attributes elicited	EI: NULL, $p < .20$
experience belief confidence	EI: YES, $p < .0001$ EII: YES, $p < .0009$
experience belief accessibility	EI: YES, $p < .02$ EII: NULL, $p < .42$
PROPOSITION 2: AD IS MORE EFFECTIVE IN PRESENTING SEARCH ATTRIBUTES THAN DPE.	
proportion of search CRS	EI: YES, $p < .005$
search attributes as a proportion of the important attributes elicited	EI: YES, $p < .02$
search belief confidence (subjective meas.) (objective meas.)	EI: NO, $p < .12$ EII: YES, $p < .0005$
search belief accessibility (subjective meas.) (objective meas.)	EI: NULL, $p < .29$ EII: YES, $p < .01$
search belief encoding accuracy	EI: YES, $p < .0001$ EII: YES, $p < .0001$
search belief memory accuracy	EI: YES, $p < .02$
search belief memory decay (poss. ceiling effect)	EI: NO, $p < .05$

superiority of AD in communicating search attributes. The MANOVA analyses in both experiments were very significant in supporting Propositions 1 and 2.

As described and explained in the Method section of this chapter, a methodological improvement was made in the second experiment concerning the search belief questions. In Experiment I, answers employing subjective 1-7 scales were used for all four of the search attribute confidence measurements and one-third of the 12 search attribute accessibility measures. As explained earlier in the chapter, because most search attributes are very objective (e.g., price, ingredients), the subjective scales from Experiment I may have been confusing. Experiment II used a much smaller percentage of the subjective 1-7 scale type questions in tapping search attribute confidence and accessibility (21% vs. 100% for confidence and 21% vs. 33% for accessibility). Table 17 reflects this change in labelling Experiment I measures as "subjective" and Experiment II measures as "objective". These can be understood to mean "relatively more subjective" and "relatively more objective". It should be noted that with this methodological improvement, the empirical results were more consistent with Propositions 1 and 2.

Combining the results from both experiments presents a consistent picture supporting Propositions 1 and 2, especially when one considers the fact that some of the less consistent results could be explained by

methodological issues and a possible ceiling effect in Experiment I. Though the categorization of search and experience attributes is open to some amount of interpretation or judgment, the differences "around the edges" do not diminish the theoretical and practical value of the search vs. experience distinction.

Theoretical Applications of Feldman and Lynch (1988)

In making predictions about the superiority of AD or DPE, H4 and H6 relied on Feldman and Lynch's theory (1988) in their consideration of media congruence of diagnostic beliefs being communicated. According to Feldman and Lynch's theory, a consumer combines attribute inputs according to their relative diagnosticity and accessibility when making an attitude decision. When one medium is weak in presenting those diagnostic attributes, attitudes are held with low confidence and do not predict behavior well. In other words, when one attribute type is more diagnostic than the other, the medium which is more congruent with the more diagnostic attribute type is more likely to produce strongly held attitudes which are predictive of behavior. Media congruence of the diagnostic product attributes increases attitude confidence and A-B consistency. This was supported for one of the two products ($p < .05$ for attitude confidence and $p < .10$ for A-B consistency).

Experiments I and II used a number of dependent variables which showed how AD and DPE can be weak in

presenting attributes of a particular type. One of these variables was belief accessibility. Feldman and Lynch predict that an attribute input will be used for an attitude decision according to its accessibility, its diagnosticity and the accessibility and diagnosticity of alternative inputs. Experiments I and II directly show that media type can significantly affect the accessibility of inputs of each attribute type.

Higher A-B Consistency for AD Than DPE: A Unique Result

As noted in Chapter 2, Fazio and colleagues' research program and Smith and Swinyard's (1983, 1988) empirical work concerning the effects of indirect vs. direct experience on attitude-behavior consistency did not use a methodology whereby beliefs derived from direct and indirect experience stimuli were pretested and equated as much as possible as they were in this study. As discussed in Chapter 3, such pretesting helps tease out the sheer media effects and avoids an unequal presentation of the object information which affects how attitude confidence, accessibility and manner of attitude formation moderate attitude-behavior consistency. This methodological advantage makes this study more reliable in testing differences between indirect and direct experience.

A-B consistency was marginally higher for AD than for DPE exposure for one of the two products, which conflicts with predictions and evidence in other studies. This might have been because of this study's attempt to

equating the information available in AD and DPE. Many attribute beliefs were more confidently held and/or more accessible after AD not DPE. In this experiment, exactly half of the attribute beliefs were more confidently held after AD than after DPE. This is strong evidence against Smith and Swinyard's (1988) and Marks and Kamins' (1988) prediction that beliefs are more confidently held after DPE than after AD. Sixty-one percent of the attributes were more accessible after AD than DPE.

The rather even ratio of importance weights for search and experience attributes for the products chosen meant that DPE had no significant advantage. This even ratio and the higher A-B consistency for AD are consistent with the premise that one must consider the media congruence of the important (diagnostic) beliefs being communicated and not automatically assume that DPE must be superior to advertising. This premise was the basis of H4 and H6 that stated that media congruence of the important product attributes increases attitude confidence and A-B consistency.

Competing Moderators of A-B Consistency

This experiment examined the effects of belief related variables and their connection to attitude-behavior consistency. Like numerous other studies, the relations of attitude confidence and accessibility to such consistency were supported in this study (in IIH5 and IIH8). This study made a unique

contribution in that attitude confidence, accessibility, polarity and medium each had a significant or marginally significant effect as simultaneous moderators of attitude-behavior consistency in one statistical model.

Media type (AD vs. DPE) had a marginally significant influence on A-B consistency distinct from attitude confidence and accessibility, perhaps because of additional attitudinal and cognitive dimensions. Some of the attitude strength dimensions (e.g., resistance to attack) from Fazio and Zanna's (1981) review in Chapter 2 could have been a part of this distinct influence.

Berger and Mitchell (1989) treated attitude accessibility and confidence in their empirical work but did not test whether either or both together moderate A-B consistency. Like Berger and Mitchell's work (for the single 15 second AD exposure-- see Chapter 2), DPE attitudes were significantly more confidently held but not significantly more accessible than those derived from advertising in Experiments I and II. The Pearson correlation of attitude accessibility and confidence was low in this study. This fact and their low Pearson correlation in Experiment I ($r = .15, p < .10$) support Raden's (1985) claim that attitude strength is multidimensional.

Summary

Like Experiment I, the empirical results in Experiment II supported Propositions 1 and 2, which define

the conditions for the media congruence of product attributes. In addition, Experiment II supported the idea that media congruence of the diagnostic product attributes increases attitude confidence and A-B consistency. If the medium naturally focuses on unimportant beliefs then attitude strength and A-B consistency will not be enhanced. Since DPE naturally focuses on experience attributes, it is possible for A-B consistency to be higher for AD than for DPE when search attributes are deemed important to the product class decision. In Experiment II, A-B consistency was higher (marginally significant) for AD than DPE for one of the products. Another interesting result was that media type had a marginally significant influence on A-B consistency distinct from the significant effects of attitude confidence, accessibility and polarity.

Feldman and Lynch's (1988) theory is built on whether inputs to a decision are relatively accessible and diagnostic. Experiment I showed that media type can have a significant effect on experience attribute accessibility, while Experiment II showed that it can have a significant effect on search attribute accessibility. Experiment I demonstrated a significant effect of medium on search attribute diagnosticity, while in Experiment II this could not be tested for either type of attribute, because the identity of possible diagnostic attributes were given by the questionnaire and not freely elicited by

the subjects. In Experiment III, media effects on attribute diagnosticity are tested. Experiment III also studies how increased motivation for consumers to attend to and process media exposures changes media effects.

CHAPTER 5

EXPERIMENT III

Introduction

Experiment I examined how different media naturally highlight different types of product attributes. When a number of cognitive variables were divided into search and experience categories (e.g., search and experience attribute cognitive responses, search and experience belief confidence), there was a significant trend supporting the two basic propositions concerning the focus and communication differences between AD and DPE. AD was more effective in communicating search attributes, and DPE was more effective in communicating experience attributes. Experiment II provided stronger support in this regard. Experiment III shows how motivational factors can moderate the strong effects of media type on the communication of product attributes. In other words, it shows how volition can overcome a medium's natural control over information processing.

Experiment I found that media type significantly influenced the number of search attributes that subjects thought they would use in an hypothetical brand choice decision. Media effects on attribute type importance

could not be tested in Experiment II, because the important attributes to be considered were given (i.e., experimenter controlled) in the questionnaire. A main focus of Experiment III is how media can influence the perceived importance of product attributes in a brand choice decision. Experiment III examines the relevance and importance (diagnosticity) of search and experience attribute beliefs and how this influences A-B consistency.

Involvement

Defining Involvement

The first two experiments were run without providing subjects with a strong motivation to attend to the stimuli. Experiment III is different in this regard. This experiment makes predictions about media effects contingent on the level of message processing involvement.

Message processing involvement is defined as the motivation to attend to, comprehend and process a media exposure. As stated by Celsi and Olson (1988, p. 211):

Like most consumer researchers, we view perceived personal relevance as the essential characteristic of involvement (e.g., Petty and Cacioppo 1981; Richins and Bloch 1986; Zaichowsky 1985)... In this research, we are particularly concerned with the motivational effects of consumers' felt involvement on their attention and comprehension of product information contained in advertisements (cf. Burnkrant and Sawyer 1983). These particular effects of felt involvement have been referred to as message-processing involvement (Petty and Cacioppo 1981), audience involvement (Greenwald and Leavitt 1984), and response involvement (Houston and Rothschild 1978).

For AD exposure, this involvement should not be confused with ad execution involvement wherein an individual is highly "involved" in processing an ad because of its artistic merit. An example of this would be the interest that an artist or media consultant might have in the style and appearance of an ad. In this study, a consumer's message processing involvement will be assumed to reflect a genuine interest in the product information itself and not just the media execution. Soliciting AD (or DPE) exposure and/or attending to product exposure exhibits audience involvement and means that the consumer is motivated to conscientiously process product information.

When a consumer is motivated in this way during AD or DPE exposure, this is high involvement during the message processing occasion. This term, "message processing occasion", is derived from Baker and Lutz' (1988) discussion of the contrast between the advertisement exposure occasion and the brand response occasion. The actual brand response occasion may have a set of situational factors (e.g., convenience) that make the inputs from an advertising (or DPE) exposure occasion less relevant.

Rationale for Studying Involvement

Studying response to different levels of message processing involvement has practical application to when the consumer is motivated to pursue more information about

a product. Typical examples are when a person wonders what a new product type (e.g., compact disc players) is like, how good a new brand is, whether an existing brand is really "new and improved", and/or which brand is the best among an existing array of brands.

Involvement has had an important role in advertising research beginning with Krugman's (1965) seminal work. As discussed in Chapter 2, the level of consumer involvement influences advertising's effects. Krugman described these effects:

...with low involvement one might look for gradual shifts in perceptual structure, aided by repetition, activated by behavioral-choice situations, and followed at some time by attitude change. With high involvement one would look for the classic, more dramatic, and more familiar conflict of ideas at the level of conscious opinion and attitude that precedes changes in overt behavior (p. 355).

In Smith and Swinyard's (1982) model, low involvement processing of an advertising usually does not produce strong attitudes that predict behavior until after the consumer tries the product (i.e., cognition--conation--affect). Under high involvement, the consumer learns about the product, has an affective response and then makes a conative response in the form of actual behavior or commitment consistent with his or her earlier cognitive and affective response (i.e., cognition--affect--conation). In their model, product trial (i.e., DPE) is often learning under low involvement.

Message processing involvement is valuable to study, because decision making is influenced by the level of involvement. A basic assumption of Petty and Cacioppo's (1986) Elaboration Likelihood Model is that personal relevance of an issue increases motivation to process a communication. The results of experiments by Petty and Cacioppo (1979b) and others (see Petty and Cacioppo, 1986 for a review) show a positive relation between issue involvement and the amount of information processing.

Greenwald and Leavitt (1984) theorize how four different levels of involvement have an ordered set of cognitive and attitudinal effects. An enduring effect of the highest level of involvement is the presence of more message elaboration than at lower stages.

Elaboration consists of such cognitive activities as relating information to personal goals..., imagining events related to the content of the message (imagery), and actively supporting or disagreeing with a persuasive message (cognitive responding). Elaboration serves to establish memory traces in which message content is integrated with existing propositional knowledge (p. 588)."

Baker and Lutz (1988) describe how different levels of ad message involvement change the amount and type of information which "consumers perceive to be worth processing" (p. 77). Highly affective stimuli and heuristics are used with very low and low levels of involvement respectively, while the conscientious and more rational consideration of product attributes is characteristic of high involvement. The last one of these

three modes describes the central route to persuasion under high involvement in Petty and Cacioppo's (1986) Elaboration Likelihood Model.

Adding involvement as a factor in Experiment III addresses the question of whether the significant media effect predictions based on Propositions 1 and 2 must assume low involvement. A consumer operating under a higher level of message processing involvement might not be influenced by a medium's natural promotion of one attribute type over another. With high involvement s/he is more likely to look conscientiously for the attribute information that s/he deems important and not be at the mercy of the medium's special focus.

Effects of Involvement on Accessibility and Importance

Baker and Lutz (1988) describe general and specific effects of message processing involvement on information processing. A less reasoned use of belief inputs would be characteristic of what Baker and Lutz call the "mindless" mode which is present under very low involvement.

(Previous to their work, Langer, Blank and Chanowitz (1978) used this term "mindless" in describing many common social activities.) According to Baker and Lutz, simple affective cues from the media exposure occasion are used in this "mindless" mode. Even if accessible attributes are known to be highly important, they are usually ignored. The lack of deliberation which results from very low involvement means that belief inputs are not be

systematically used according to their accessibility and importance.

With low involvement, consumers usually focus on heuristic information (Baker and Lutz, 1988). An example of this would be buying a brand because it is the most convenient and not because it is the best. A heuristic can be a single highly accessible belief (e.g., endorsement by a very credible source). Using such an heuristic replaces the consideration of a wider array of important and accessible beliefs as the decision making mechanism.

The last category Baker and Lutz use is present with high involvement. In such circumstances, the consumer is motivated to conscientiously search for, attend to, consider and integrate specific product information. This includes considering all accessible inputs, judging their importance (which influences diagnosticity) and making a reasoned decision according to the Feldman and Lynch (1988) framework. This conscientious and systematic decision making is more likely with high involvement than with the other two levels of involvement. Lynch, Marmorstein and Weigold (1988) state that involvement "might affect the threshold level of diagnosticity that must be reached before search terminates" (p. 172).

In summary, the above discussion proposes that message processing involvement influences the interaction of diagnosticity (through attribute importance) and

accessibility in decision making. The basic mechanism is that motivation to process a media exposure increases attention and information processing time. The following hypotheses explore this mechanism in more depth for a number of cognitive variables.

Hypotheses

Each of the following hypotheses describes a significant main effect or interaction concerning message processing involvement. Almost all of the hypotheses are based on the idea that higher levels of involvement decrease the unique effect of each medium in its focus on one attribute type or the other. Under low involvement, the consumer is more easily manipulated by the medium's focus; while under high involvement, the individual makes more effort to control the focus and process the attributes s/he thinks are important. Further reference to "involvement" in this chapter concerns message processing involvement.

In Experiment III, all of the hypotheses but one (H5) concern the judged diagnosticity of product attributes. As in Experiment II, diagnosticity is operationalized as relevance and judged importance of a product attribute in making a hypothetical choice between brands within a product class.

Effects on the Number of Important Attributes

As discussed earlier in this chapter, under low message processing involvement, consumers are not motivated to process the full array of a product's attributes. Baker and Lutz (1988) assert that at a very low level of advertising message involvement, highly affective stimuli from the message dominate processing. With low involvement, heuristic quality cues dominate. With high involvement, product attributes that can be compared to those of other brands within the product class are the focus of the consumer.

Baker and Lutz' description is consistent with the idea that under low involvement, the individual is not trying to process (or even encode) the nuances of the product exposure (e.g., the typical television ad exposure for a laundry detergent). With higher levels of involvement, attention, comprehension and processing increase. This is consistent with empirical findings that issue involvement increases information processing (Petty and Cacioppo, 1979b; see Petty and Cacioppo, 1986 for a review). This increase in information processing suggests that the number of product information bits encoded and processed could increase:

EIIIH1: The number of salient attributes that an individual deems important in choosing between brands in a product class increases with higher levels of message processing involvement.

The underlying mechanism of this hypothesis is separate from accessibility. Accessibility differences

between types of attributes are a matter of a few seconds or less. When subjects are given minutes to elicit important product attributes, this differential accessibility has little effect on the number of attributes elicited. Though many attributes are available and hence could be accessed, the consumer has no desire to label them as relevant and important under low involvement.

Empirical basis for the instability of salient important attributes can be found in Experiment I which showed that AD and DPE significantly influenced the number of search attributes that were judged important in deciding between the candy bar and other brands. This result indicates that it is possible for the number of salient important attributes used in decision making to be manipulated by type of media exposure.

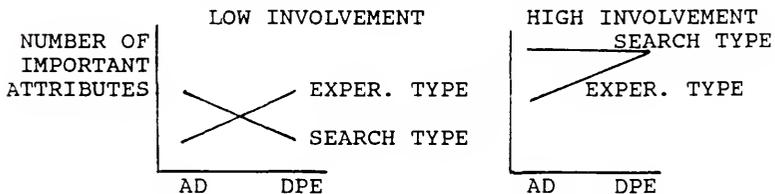
In H1 above, it was suggested that consumers are not motivated to think about the full array of a product's attributes with low involvement. According to Baker and Lutz (1988), consumers "are not motivated to relate message information to the product class memory network" (p. 78) under low ad message involvement. (They use the term "advertising message involvement" instead of the term message processing involvement.) "Consumers are motivated to comprehend and relate message information to the product class memory network" (p. 79) with high ad message involvement. With higher message (processing)

involvement, the consumer is motivated to think about a product and which attributes are important enough to consider in evaluating the product relative to other brands.

Thus under higher involvement, the consumer considers the brand in light of what s/he already knows about the product class including comparable brands and their important attributes. With low involvement, the consumer does not bother to tap into the product class memory network. Instead s/he is at the mercy of the single media exposure itself. If the particular ad (or DPE) promotes one set of attributes as more important, s/he does not bother to access the product class memory network, compare it with the ad, and reject the ad's framing of the product's attributes.

EIIIH2a: The level of involvement moderates the interaction of attribute type and media type in their effects on the number of salient attributes that an individual deems important in choosing among competing brands: 1) Under low involvement, the number of search attributes is higher for AD exposure than DPE exposure, while the number of experience attributes is lower for AD exposure than DPE exposure. 2) Under high involvement, the number of search attributes is equivalent for AD and DPE exposure, while the number of experience attributes is lower for AD exposure than DPE exposure.

This two-way interaction has the following pattern:



The above assumes that both types of attribute information are available in the media exposures. No predictions are made for the main effects of media type or attribute type on the dependent variable.

The rationale behind the simple interaction under low involvement is the "media congruence" of product attributes according to Propositions 1 and 2 (see Chapter 4). Briefly, the idea is that DPE is more effective than AD in presenting experience attributes. DPE directs attention to experience attributes at the expense of attention to search attributes. AD is more effective than DPE in presenting search attributes because it does not have such a strong distraction away from the search attributes.

Higher levels of involvement decrease the unique effect of each medium in its focus on one attribute type or the other. Under low involvement, the consumer is more easily manipulated by the medium's focus. Conversely, under high involvement, the individual is conscientiously attempting to discover more about the attributes s/he thinks are important. The individual focuses less on what the medium naturally highlights. As described in H1, there is also a main effect of involvement on the total number of salient important attributes.

The high involvement-AD-experience attributes cell remains at a lower level than the other three high involvement cells, because experience information is not

presented well by advertising (search information can be effectively presented in DPE). With AD exposure, the consumer cannot find reliable experience attribute information no matter how motivated (high involvement) s/he is to pursue it. With AD, this enforced focus toward the search attributes and away from experience attributes acts as a part list cue (see Alba and Chattopadhyay, 1985, 1986), wherein the salience of search attributes hinders recall of competing attributes. The number of salient experience attributes is thus lower for AD than DPE under high involvement.

The low involvement section of this hypothesis relates to important results in Experiment I. In that experiment, the number of important search attributes was significantly higher for AD than for DPE as predicted. The number of important experience attributes tended to be higher for DPE than AD as predicted, but the difference did not reach significance ($p < .20$).

Belief Strength Variables

Experiment II proposed two media congruence hypotheses concerning belief confidence (EIIH1) and belief accessibility (EIIH7) which were based on Propositions 1 and 2. Subjects in Experiment II were given little or no incentive to attend to and process the information in the media exposures, therefore one could assume that Experiment II produced the significant media congruent

results concerning belief confidence and accessibility under low involvement.

The above rationale for EIIH2 involves the effectiveness of different media in presenting product information under high and low involvement. The basic idea is that under low involvement, the individual is at the mercy of the particular focus of the medium of communication. In contrast, under high involvement, the individual is more in control of his or her attention to information and s/he searches for the information s/he thinks is important. The individual can find this information in both media except when s/he is looking for experience attribute information in AD. With this in mind, the identical pattern of predictions as in EIIH2a can be predicted for belief confidence and accessibility:

EIIH2b: Higher levels of involvement decrease the significance of the media congruence interaction of attribute type and media type in their effects on attribute type confidence and accessibility. (The pattern of interaction is identical to that in EIIH2a.)

Like belief confidence and accessibility, belief accuracy is an indication of the effective communication of information by different media. As in Experiments I and II, predictions can be made about the accuracy of search attributes, but not about experience attributes:

EIIH2c: The level of involvement moderates the main effect of media type on search attribute accuracy. 1) Under low involvement, search attribute belief accuracy is higher for AD exposure than DPE exposure. 2) Under high involvement, search attribute belief accuracy is equivalent for AD and DPE exposure.

This has the identical pattern of results and rationale as EIIIH2a and EIIIH2b except that experience attribute predictions are not present.

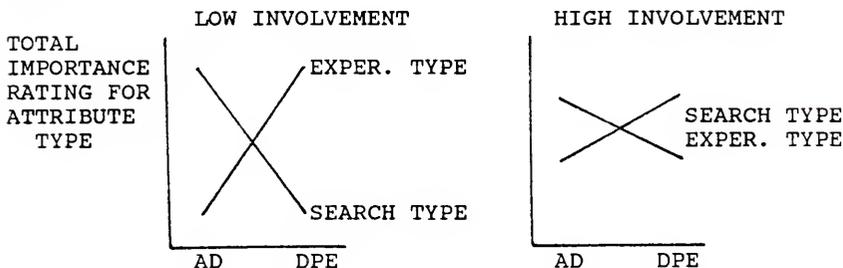
Involvement and Media Effects on Attribute Importance Ratings

In two experiments, MacKenzie (1986) presents empirical support for the hypothesis that increasing attention to an attribute increases the attribute's importance rating. When applied to media exposures, one could predict that under low involvement, the increased attention that DPE gives to experience attributes and the increased attention that AD gives to search attributes would increase the overall importance ratings for those media congruent attributes. Like H2a and b, the following hypothesis uses the media congruence rationale and the idea that under high involvement, the consumer's attention is not controlled by the medium as much as it is under low involvement:

EIIIH3: The level of message processing involvement moderates the interaction of media type and attribute type in their effects on the attribute importance weights for the attributes within an attribute type: 1) Under low involvement, the importance of all search attributes together is higher for AD exposure than DPE exposure, while the importance of experience attributes together is lower for AD exposure than DPE exposure. 2) Under high involvement, the importance of all search attributes together is similar for AD and DPE exposure, while the importance of experience attributes is lower for AD exposure than DPE exposure. 3) For experience attributes, the difference between the low and high involvement conditions is that the cell differences between

AD and DPE are less extreme under high involvement.

This two-way interaction predicts the following pattern:



The high involvement prediction differs from the pattern predicted in H2a which concerned the number of important attributes and not their importance rating. In H2a, the total number of important attributes can increase with higher involvement. As an artifact of H3, the total of the importance ratings together cannot change because it must always equal 1 (or 100%). This means that the predicted pattern in H2a cannot be repeated in H3, because search and experience attributes' respective importance ratings have more of an inverse (ipsative) type of relationship.

As described earlier, under low involvement, the consumer is more easily manipulated by the medium's focus, while under high involvement, the consumer governs the focus of his/her information processing. Thus under low involvement, the consumer is more extreme in focusing on what the medium naturally focus on. The difference

between AD and DPE for the attribute types is thus relatively large under low MP involvement when compared to high MP involvement.

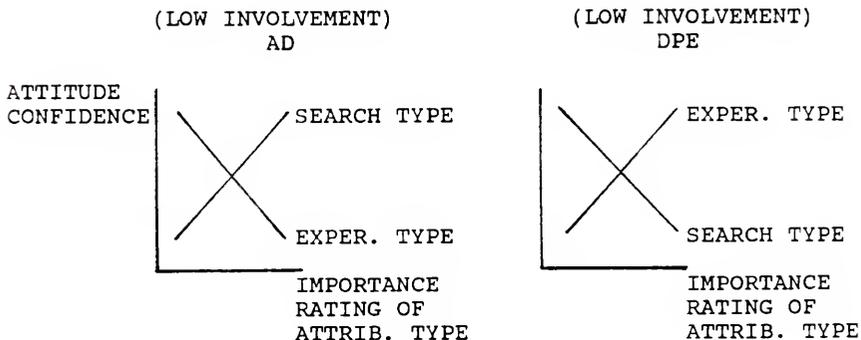
With high AD exposure involvement, the consumer is motivated to attend to but cannot find reliable experience attribute information. AD cannot provide this reliable experience attribute information. AD's reliable information content must thus focus on search attributes. The rated importance of the search attributes is thus higher for AD when compared to DPE. This enforced focus on the search attributes hinders recall and thought about the competing experience attributes for AD, thus the rated importance of the experience attributes is less for AD when compared to DPE.

As in H2a,b, search attribute information is present in both media and with high involvement, the individual is motivated to find and attend to it. This means that under high involvement, no significant difference between AD and DPE is predicted for search attribute type importance ratings.

Involvement and Attribute Importance Effects on Attitude Confidence

The following hypothesis concerns how involvement moderates the effect of media congruence on attitude confidence. In other words, it examines how involvement moderates the predicted effects of H4 in Experiment II. A two-way interaction of attribute type importance rating and media type (under low involvement) was predicted and

tested in EIIH4. The empirical results were in the predicted direction for both products; however, the interaction was significant for only one of the products. In simple visual form, the prediction for EIIH4 was as follows with any main effects of treatment and attribute type removed:



or using the sign of the beta slopes relating importance rating of attributes within an attribute type to attitude confidence:

		(LOW INVOLVEMENT)	
		AD	DPE
ATTRIBUTE TYPE	Search	+	-
	Experience	-	+

The basic rationale for this began with the notion that AD focuses on search attributes relative to experience attributes. As a result, belief confidence is higher for search attributes than experience attributes after AD exposure. Since belief confidence is related to

attitude confidence (from H3 in involvement Experiment II), attitude confidence increases when the medium better describes the diagnostic product attributes. The experience attribute type predictions are the mirror image of those for AD because DPE highlights experience attributes instead of search attributes. In summary, the media congruence of a product's important attributes increases attitude confidence.

These predicted results from EIIH4 are assumed to hold under low involvement in the following expanded hypothesis. In addition, a different interaction is predicted under high involvement:

EIIH4: Attribute type importance rating and media type interact in their effects on attitude confidence. This interaction is moderated by message processing involvement. 1) Under low involvement, attitude confidence increases for AD exposure when search attributes are more important; attitude confidence decreases for AD exposure when experience attributes are more important; attitude confidence decreases for DPE exposure when search attributes are more important; attitude confidence increases for DPE exposure when experience attributes are more important. 2) Under high involvement, attitude confidence remains the same for the different media when different attributes are deemed important, except that attitude confidence decreases for AD exposure when experience attributes are more important.

Briefly this predicts that under involvement, media congruence of important attributes has a large effect on attitude confidence, while under high involvement, media congruence is less important because the consumer hunts for the information s/he is interested in during the product exposure. No predictions are made about the main

effects of media type, involvement and attribute type on attitude confidence.

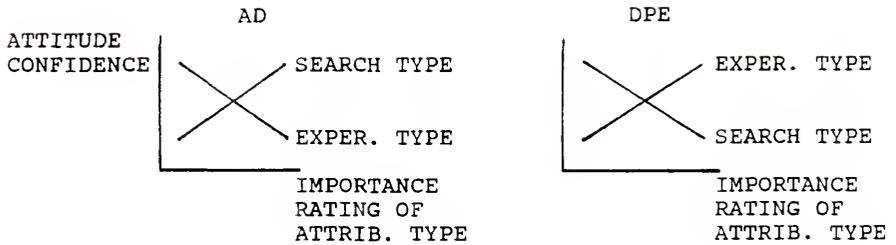
In showing these predictions, one can use the sign of the beta slopes which was used earlier. Under low involvement, the signs of the beta slopes are identical to those in EIIH4. Under high involvement, medium has no effect in focusing more attention on each attribute type, because the individual is motivated to look for the information s/he deems important instead of being manipulated by the medium's focus. Because AD cannot provide some of the experience attribute information, experience attribute importance and attitude confidence are negatively related for AD exposure under high involvement (hence a negative slope):

LOW INVOLVEMENT				HIGH INVOLVEMENT			
		AD	DPE			AD	DPE
ATTRIBUTE TYPE	Search	+	-	Search	0	0	
	Experience	-	+	Experience	-	0	

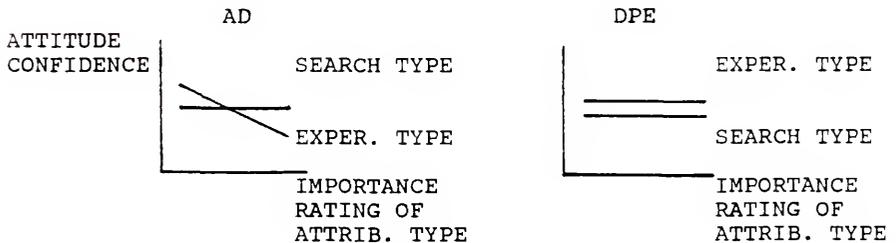
(0 = no slope or a flat slope)

When the above variables are graphed, they appear as the following:

LOW INVOLVEMENT



HIGH INVOLVEMENT

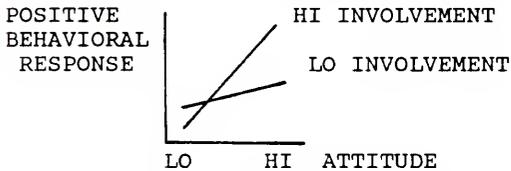
Involvement and Attitude-Behavior Consistency

The results of experiments by Petty and Cacioppo (1979b) empirically demonstrated a positive relation between issue involvement and information processing. A conscientious brand attitude formation process would be more characteristic of high message processing involvement than of low involvement. It is proposed that when the behavioral decision was finally made, the attitude formed under high involvement would be regarded as more reasoned and rational and thus more diagnostic for the behavioral decision. This rationale uses the familiar notion of

diagnosticity to predict that message processing involvement moderates attitude-behavior (A-B) consistency.

EIIIH5: Higher levels of involvement increase attitude-behavior consistency.

This hypothesis assumes that an attitude has been formed before the behavioral decision. The hypothesis can be expressed in the following visual form:



It is an intuitively appealing notion that individuals who care about a message and conscientiously process it form a well thought out attitude that is deemed valuable in making a behavioral decision, while the person who does not care about a message forms a less conscientiously considered attitude that is deemed less valuable in making a behavioral decision. A less conscientiously considered attitude is vulnerable to attack from situational influences (e.g., effort to find the product in the shopping mall) or a reconsidered opinion (e.g., when a larger number of the product's known attributes are used in the decision).

In a review of attitudes and attitude change, Chaiken and Stangor (1987) state:

... attitudes formed on the basis of systematic processing, compared to those formed on the basis of simple decision rules or other peripheral mechanisms, have been postulated to

be relatively enduring and predictive of subsequent behavior. Although findings consistent with these hypotheses have been obtained in several published studies (Chaiken 1980, Chaiken & Eagly 1983, Pallak et al. 1983, Petty et al. 1983), stronger support, particularly regarding the attitude-behavior link awaits further research (p. 596).

It should be noted that "simple decisions rules" and "systematic processing" directly parallel Baker and Lutz' (1988) description of information processing under moderately low involvement and high involvement respectively. Only one of the above references that Chaiken and Stangor cite predicts and tests whether some kind of involvement moderates attitude-behavior consistency.

Before AD exposure, Petty, Cacioppo and Schumann (1983) elicited high involvement by telling subjects that they would select a brand of a product type and that the product would be sold in the area soon. Low involvement subjects were not told that they would have to make such a decision or that the product would be sold in the area. (The motivation of the latter group in processing the message was thus less than that of the former group.) The correlation of attitude and intention was higher for high involvement than for low involvement (.59 vs. .36). The authors pointed out that this result is consistent with the Elaboration Likelihood Model prediction that attitudes formed by the central route to persuasion (i.e., under high involvement) are more predictive of behavior. It should be noted that Feldman and Lynch's (1988)

perspective suggests a reason for this increased consistency, i.e., that such attitudes are used because they are perceived as more diagnostic to the behavior decision. They are judged more diagnostic, because they were formed in a more reasoned and conscientious manner.

Media Effects, Involvement and A-B Consistency

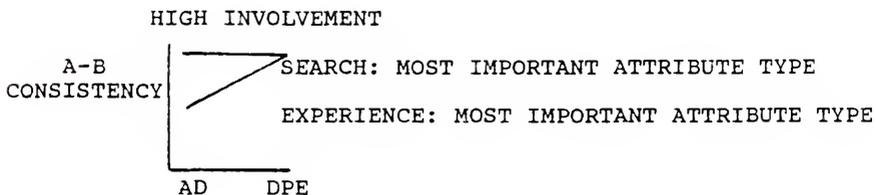
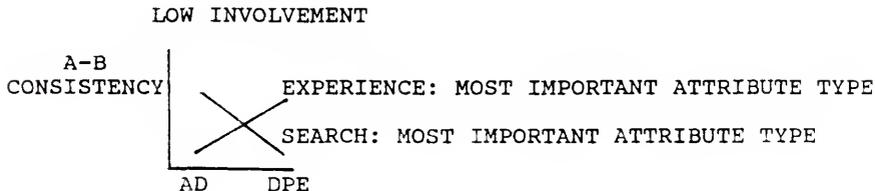
Petty et al.'s (1983) empirical work supports H5 in a marketing setting using AD exposure. This prediction and its rationale are building blocks in the final hypothesis concerning media effects, attribute type diagnosticity (importance), involvement and A-B consistency. Like many of the hypotheses in this experiment, the following hypothesis adds another level of involvement to the test of an hypothesis from Experiment II (i.e., EIIH6).

In EIIH4 above it was proposed that message processing involvement moderates the manner in which media congruence of a product's important attributes increases attitude confidence. Because attitude confidence is related to A-B consistency (Sample and Warland, 1973; Fazio and Zanna, 1978a,b; Smith and Swinyard, 1983; empirical results from EIIH5) the same pattern of predictions can be made for the dependent variable "attitude- behavior consistency" which is actually a relation between two dependent variables.

EIIH6: Involvement, diagnosticity (importance) of attribute type and media type interact in their effects on attitude-behavior consistency. This is a complex interaction in which the level of involvement moderates the interaction of attribute type diagnosticity and media type in

their effects on A-B consistency. (The pattern of interaction is identical to that in EIIH4 except that attitude-behavior consistency is the dependent variable and high involvement has a main effect which increases A-B consistency (from EIIH5).)

This four-way interaction predicts the following pattern:



It should be noted that the pattern of predicted results is similar to that of H2a,b and H4 in this experiment. The predicted pattern for low involvement is identical to EIIH6 which was supported for one product ($p < .10$) but had null results for the other product in Experiment II.

Summary

The preceding hypotheses describe how a motivational factor (i.e., message processing involvement) can moderate the strong natural focus of each media type in the communication of product attributes. Another important

aspect of Experiment III is how media type can influence the perceived importance and strength of product attribute beliefs. These in turn influence attitude strength and A-B consistency. The rest of the chapter discusses the testing of these hypotheses for a different class of products: consumer durables.

Pretesting

Because higher levels of message processing involvement were necessary in testing the hypotheses, the pencil and candy bar products used in Experiments I and II were judged inappropriate. Such inexpensive products are only a trivial part of the consumer's life, and it is more difficult to increase motivation to process an advertisement or DPE when using inconsequential stimuli. More expensive items that are used over a long period of time are more likely to promote higher involvement during media exposure.

A stationary exercise bicycle and a fold-out chair bed each costing around \$90, were used in this experiment. Matching prices were needed in this experiment because the behavioral measure was planned as a repeated measure similar to the one employed in Experiment II. These two products were assumed to have a higher level of importance in a person's life and a decision regarding these consumer durables would probably be more difficult. They were also more complex products than those used in Experiments I and

II, which is valuable in showing that the AD vs. DPE propositions are reliable for a wide array of products.

All traces of the original brand name for these products were removed and replaced by the fabricated brand names, "E-Z-CISER" and "Kent Fold-out Chair-bed". In addition, a book rack (for reading while cycling), was purchased and added to the stationary bicycle, thus changing the product significantly. The chair-bed was treated with Scotchgard in order to improve its soil-resistant properties.

The name and product changes were necessary to avoid any familiarity and previous preference for the brands. Both products were sold in the area, but because of the above changes, they were not supposed to be recognized. If subjects saw a similarity, the products could be regarded as "copy-cat" or "me-too" products which subjects had never seen before.

The stationary bike was deemed relevant to the subject population, because many students work out in college weight rooms or health clubs. With a book rack on the stationary bike, they could read and exercise simultaneously. The chair-bed was small and convenient enough to use in a dorm room or apartment when friends and relatives visit.

It is likely that most of the subjects were not "experts" in purchasing these two products. This made the effect of media type on the presentation of product

attributes stronger, because subjects did not have as many preconceived knowledge structures which are resistant to manipulation by the media type. This would make any "media congruence" type of interaction empirical results more significant under low and high involvement, but would also make the high involvement cells resemble their low involvement counterparts because subjects would not be able to refer to preconceived knowledge structures in choosing which attributes to attend to and which to ignore. When the above hypotheses predicted different patterns of results for the low and high involvement cells, the use of these two products would make it more difficult to attain significantly different results between the low and high involvement cells.

Using a similar process as in Experiments I and II, AD stimuli were designed specifically for the experiment so that information gained from AD and DPE exposure was as equivalent as possible. The most frequently occurring attribute cognitive responses to DPE were the basis of the AD copy and content. For DPE, subjects were exposed to the product and a small point-of-purchase display which consisted of a yellow placard covered in clear plastic. The placards contained search attribute information (e.g., price, available colors). This information was unavoidable, because a placard was placed on the seat of the fold-out chair-bed (attached to a stretch cord) and on the book rack for the stationary bicycle.

Main Experiment

Design

In the main experiment, student subjects were recruited from three marketing classes at the University of Florida. After deleting the subjects who received the wrong procedure or made errors in receiving the treatment, 184 subjects' data were used in the analysis. Subjects received extra credit in their marketing course for participating, and they were also eligible for the two prize drawings described below. All subjects were tested one at a time.

The basic experimental design was a mixed four factor design with involvement, product type, order of product presentation and media type as the manipulated factors. Involvement and product order were between subjects factors. Product type and media type were within subjects. In this experiment, subjects (Ss) were exposed to one of these eight conditions:

LOW INVOLVEMENT MANIPULATION:

1. Bike AD & Chair DPE
2. Bike DPE & Chair AD
3. Chair AD & Bike DPE
4. Chair DPE & Bike AD

HIGH INVOLVEMENT MANIPULATION:

5. Bike AD & Chair DPE
6. Bike DPE & Chair AD
7. Chair AD & Bike DPE
8. Chair DPE & Bike AD

The ordering of these eight conditions among subjects was determined using random sampling without replacement. Each subject's exposure to two products was advantageous

for stimulus replication, increasing statistical power with twice as many data points, and removing individual subjects' effects from the statistical tests. This type of variance was significant for some of the attitude-behavior moderation tests in Experiment II.

The procedure for administering the experiment was the following:

1. Ss read the cover story sheet for the first product. This manipulated involvement.
2. Ss were exposed to first product AD or DPE for 1½ minutes.
3. Ss gave a 1-7 semantic differential evaluation for the product and their confidence in that evaluation.
4. Ss read the cover story sheet for the second product. This manipulated involvement.
5. Ss were exposed to second product AD or DPE for 1½ minutes.
6. Ss gave the 1-7 semantic differential evaluation for product and confidence in that evaluation.
7. Ss signed on the computer and gave demographic information. This was useful as a distracting filler task between attitude and behavior elicitation.
8. Ss keyed and wrote their choice to receive the product or \$40 for both product prize drawings described below. They were told that their chances of winning were not affected by their choice.
9. On the computer, Ss answered purchase intention questions for the first product and then the second product.
10. On paper, Ss listed the attributes which they deem important in choosing between the first product and similar brands. They then rated the attributes' importance in the purchase choice decision.

Ss repeated this procedure for the second product.

11. Attitude questions for both products were repeated but on the computer this time. Attitude accessibility was automatically measured.
12. Ss keyed belief level and confidence questions about the first product on computer. Belief accessibility was automatically measured.
13. Breather
14. Ss answered belief level and confidence questions about the second product on the computer. Belief accessibility was automatically measured.
15. Ss keyed one product class usage question for each product.
16. Each subject keyed a number between 1 and 9999 guessing how many subjects were going to participate in the experiment. This served as an estimate of his or her perceived chances of winning one of the drawings.
17. Ss read the debriefing sheet. Most subjects were not allowed to take this outside the room, because it might be seen by other Ss who would participate in the experiment in the future.

Product and Media Exposure

Experiment III used the stationary exercise bicycle and chair-bed described earlier. For product DPE, each subject was guided behind a partition where s/he could try out the product in privacy. Privacy was provided so that the subject had as natural a product exposure as possible. After the 1½ minute period, the subject was then led back to the original carrel. AD exposure took place in this original carrel which was separated from the experimenter by a partition. Subjects basically had their privacy

during both types of product exposure and during the questionnaire.

Involvement Manipulation

Each subject was exposed to only one level of involvement, because the first product exposure's level of involvement could carry through to the second product exposure. The level of involvement for these products was manipulated using the following format:

In this part of the study, you are being asked to view a test advertisement for (or try out) a STATIONARY EXERCISE BICYCLE (or CHAIR WHICH CONVERTS TO A BED).

(LOW INVOLVEMENT:) This is a proposed model which is under consideration. It may or may not be produced in about 2 years.

(HIGH INVOLVEMENT:) This product is an existing product which was bought in this city. There will be a prize drawing in which one person participating in the experiment will receive his/her choice of this product or a sum of money which differs from its retail price.

(BOTH LOW AND HIGH INVOLVEMENT:) We would like for you to look at the test ad (or use the product) enough so that you know what the product is like. You will have 1½ minutes to look at the the test ad (or sample the product). Your task today is to evaluate the product.

Because the actual sum of money to be given away was not revealed during product exposure, the subjects in the high involvement condition were unable to change the message processing task to a specific choice task (e.g., choice between receiving the product or a specific sum of money). The low message processing involvement subjects were told of the prize drawings' existence only when they had to perform the specific choice task. All Ss were told

the exact amount of the prize money only during the actual choice task. This choice was the first behavior elicitation. The prize drawings were real.

This manipulation of involvement attempted to show the effects of two levels of motivation to attend to and process media exposures. The high involvement manipulation was intended to make Ss more motivated to attend to the product exposure because they would have to make an informed choice in the future between actually receiving the product or receiving an indefinite sum of money. In the low involvement condition, Ss did not know that they would be making that choice. As in Petty et al.'s (1983) manipulation of involvement described in H5, subjects in the "high" condition knew they would be making a decision concerning the product class of interest, while those in the "low" condition did not. In their study, Ss in the "low" condition believed that they would make a decision about another type of product.

In Petty et al.'s work, Ss in the high involvement condition were told that the product would be sold in their city soon; while this expectation was not present for those in the low involvement condition. In Experiment III, Ss in the high involvement condition were told that the product was sold in their city at the time of the experiment; while in the low involvement condition, they were told they could not see the product again for at least two years. Consistent with past empirical research,

it was assumed that subjects would not be motivated to meaningfully process an AD (or DPE) for a product they could not see again for a long time. Ekman and Lundberg (1971) described and replicated Bratfisch, Lundberg and Kruger's (1970) work which inversely related subjective distance in future time to emotional involvement.

Unlike the low involvement subjects, high involvement Ss were told that they could purchase the product somewhere in the city. The debriefing told both groups that it was available but under a different brand name. This manipulation is consistent with works discussed by Lundberg et al. (1972) which support the idea that perceived geographical distance is inversely related to emotional involvement. Petty et al. (1983) used a similar manipulation where some subjects were told the product was being test-marketed in the subjects' city while others were told it being test-marketed on the East Coast.

In summary, motivation to process the media exposures was manipulated using perceived distance in time, perceived geographical distance and whether subjects thought they could personally receive their choice of the product or money in a drawing. All three of these manipulations are accepted in the literature as means of influencing involvement.

Belief Questions

As in Experiments I and II, belief accuracy was measured using true-false responses. The belief accuracy

questions had an identical format to those in Experiment II. Unlike Experiment II, the true- false belief elicitation preceded the 1-7 interval belief elicitation. An example of the former type was "This chair-bed has a 100% cotton cover. (press '1' if this is TRUE, or '2' if this is FALSE.) The last question stated that the chair-bed has a 100% cotton cover. Your answer was (TRUE or FALSE) - How certain are you about that answer? not at all certain... extremely certain." An example of the 1-7 interval type was "Considering stationary bikes in general, how LARGE is this stationary bike?" extremely SMALL... extremely LARGE. "How CERTAIN are you about the ACCURACY of your above judgment about how LARGE this stationary bike is? Not at all certain... Extremely certain."

Product belief level, confidence and accessibility were elicited last. This prevented attribute processing demand effects concerning the attitude, behavior and important attribute measures among others.

Other Dependent Measures

Attitude evaluation was measured using four 1-7 semantic differential scales. The descriptions used were unfavorable... unfavorable, good... bad, dislike... like and appealing... unappealing. Attitude confidence was measured using three 1-7 ratings concerning the previous four attitude scales together. These three ratings were extremely uncertain... extremely certain, extremely

sure... extremely unsure, and not at all confident...
extremely confident.

Attitude was elicited a second time and on the computer in order to register attitude accessibility and to serve as a measure of attitude persistence. The first attitude was not attacked during the intervening time; however, it could change after the elicitation of behaviors, purchase intentions, important attributes and importance weights.

Purchase intention was measured with the question "How would you describe your chances of buying this (product) if you saw it in a store?" very unlikely... very likely and very possible... impossible on a 7-point scale.

The important attribute ratings used a type of question which appeared in pretesting for Experiment II. Ss listed attributes which they deem important in choosing between the chair-bed (or bike) and other brands. They then divided 100 points among these attributes in rating their importance to the purchase choice decision.

The important attribute elicitation followed the first attitude and attitude confidence rating in order to avoid the demand effect of forcing Ss to consciously consider each product attribute in forming their attitude. This demand effect could force Ss into a high involvement processing mode wherein Ss rationally combine attribute

evaluations in an expectancy-value formulation of attitude and not in a more wholistic or heuristic mode.

The product usage question was "How many times in the last 6 months have you used some kind of stationary exercise bicycle? (not including today)" 0 times, 1-2 times, 3-4 times, 5-6 times or 7 or more times. For the other product, "fold-out chair-bed" was used in the identical question. This type of measure could be coded as an ordered categorical variable.

Analysis and Results

Introduction

In order to test many of the hypotheses in Experiment III, the elicited important product attributes were categorized using the search, experience and credence (SEC) categories. Two judges coded each important attribute response as being search, experience, credence or "other" (see Appendix J). The coders' judgments were then compared. Two judges agreed on 86.63% of the 1705 attribute responses coded. A third judge broke the ties. Only one of the 1705 attribute responses was given a different code by each of the three judges. This "tie" was resolved by discussion among two of the judges. In categorizing the attributes used in the attribute questions, the judges' agreement rate was 96.88%. Table 18 shows the judges' categorization of the products' attributes.

Table 18Judges' Categorization of Product Attributes Used in Experiment III Questions

Stationary Bicycle	
Search	Experience
book rack for reading timer	ease of adjusting pedal effort controls
adjustable seat and handlebars	seat comfort
speedometer	bike's general comfort
cost	sturdy
pedal straps	level of quality
pedal effort controls	
displays distance	
size	Credence
attractive appearance	
selection of features	improves cardiovascular health

Fold-Out Chair-Bed	
Search	Experience
cost	easy to fold-out and fold-in
comes in more than 4 colors	firm
100% cotton cover	comfort as a chair
soil-resistant with Scotchgard	comfort as a bed
washable	sturdy
does not come in beige	retains its shape when sitting on it
attractive appearance	convenience
space it takes as a chair	

As in Experiment II, all but the A-B moderation tests included all possible media type, product type, ordinal position and involvement effects and their interactions with the effect of interest. This was labelled as a "MAX" model. A "MIN" model was used for each final attitude-behavior consistency test mainly because of the unwieldy size of the "MAX" models and their reduced statistical power in estimating effects. Each MIN model contained all possible interactions among the variables within the effect of interest and all possible interactions among the manipulated variables (i.e., media type, product, ordinal position and involvement). When appropriate, the MAX and MIN models also contained the main effect of subjects. The sum of squares tables in this chapter and in Appendix K indicate all the terms used in each hypothesis test.

Tests of higher order interactions with the effect of interest were performed for tests of all of the hypotheses, Propositions 1 and 2 and other effects. These interactions included the interaction of ordinal position with the effect of interest, the interaction of product type with the effect of interest and the interaction of involvement with the effect of interest when appropriate. Because many of these higher order interactions had little substantive relevance, and because there were so many of them, only the significant ($p < .10$) higher order interactions were reported. In all cases, a MAX model was

used in testing for these higher order interactions (a MIN model would not contain the higher order interactions with ordinal position and with product type).

Twenty-three subjects were assigned to each of the eight between-subjects cells in the design making the maximum between-subjects sample size 184. The maximum number of observations for each measure was 368. Non-response or misunderstanding made small changes in this number for some of the dependent variables. Because all of the hypotheses were directional predictions, one-tail t-tests were used unless indicated. These t-tests were usually tests of whether the beta coefficient for that cognitive variable equalled zero in the model employed. It should be noted that in a portion of some of the hypotheses, it was predicted that involvement would have no effect on experience attribute variables. In such cases, two-tailed tests were indicated and reported, because no direction was predicted. Appendix K shows means, sum of squares and significance tests for hypothesized effects in this experiment.

Each involvement X media type X attribute type interaction hypothesis (H2a,b,c and H3) tested an effect that happened to be a higher order interaction for the testing of Propositions 1 and 2 (i.e., the media type X attribute type interaction). Because of this close relationship, tests of Propositions 1 and 2 follow those hypothesis tests in the following analysis.

Important Attribute Tests

In Experiment III, H1 (IIIH1) predicted that the number (i.e., a count) of important attributes used in making a purchase decision would be larger under high involvement than under low involvement. As mentioned above, a test was performed to see if there were any higher order interactions of the hypothesized effect with the type of product or ordinal position of exposure (i.e., first product exposure vs. second product exposure). There were no such higher order interactions. In testing H1 the results were in the opposite direction and insignificant ($t(175) = -1.24, p < .11$).

IIIH2a predicted that involvement moderates the basic interaction of media type and attribute type in its effect on the number of important attributes elicited. Tests of the higher order interactions revealed a higher order interaction of ordinal position with the effect of interest ($t(175) = 1.95$, two-tail $p < .05$) but not of product with the effect of interest. It is assumed that when there is a higher order interaction of position, the second position data are somehow contaminated by the first product exposure and/or its questions; therefore, in this and other similar cases, the second position data were eliminated from the analysis. For the data only in the first product exposure, IIIH2a was significantly supported ($t(175) = 1.82, p < .04$) in the predicted direction. Table 19 shows the means for AD and DPE under low and high

Table 19

Means of Selected Dependent Measures by Media Type and Level of Involvement¹

Measure	Low Involvement		High Involvement	
	AD	DPE	AD	DPE
Number of Important Attributes Elicited	4.68	4.79	4.59	4.50
Number of Important Attributes Elicited ²				
Search Type	4.02	3.24	3.13	2.96
Experience Type	.89	1.67	1.39	1.63
Weighting of Important Attributes Elicited ²				
Search Type	74.37	52.87	63.74	56.17
Experience Type	20.93	44.59	31.85	39.26
Belief Confidence				
Search Type	6.21	5.93	6.22	5.96
Experience Type	4.94	6.01	4.99	6.09
Belief Accessibility ³				
Search Type	5.64	5.93	5.76	6.19
Experience Type	7.27	6.52	7.21	6.69
Belief Inaccuracy	.10	.17	.13	.17
Attitude Confidence	5.57	5.79	5.63	5.86
Attitude Accessibility	5.43	5.25	5.18	5.14
Attitude Persistence	.27	.35	.31	.33
Attitude Extremity	1.31	1.44	1.34	1.40
Attitude Extremity ²	1.19	1.29	1.45	1.20

¹ All cell sizes are n= 91 or 92 unless indicated.

² Because of an higher order interaction, only first position data were used. Also, all cell sizes were n= 46.

³ All cell sizes were n= 87.

involvement for the number and weighting of the important attributes elicited in Experiment III.

Because of this significant interaction, the basic media congruence hypothesis (attribute type X media type interaction) was performed for each level of involvement for the first position data. There was no higher order interaction with product for this dependent variable. The simple interaction of media type and attribute type was significant for low involvement ($t(87) = 3.28, p < .0008$) but not significant for high involvement ($t(87) = .99, p < .16$).

There were no significant higher order interactions for the test of whether involvement moderated the influence of Proposition 1 (i.e., involvement X media type) for the number of experience attributes elicited. As predicted, involvement did not significantly moderate this influence ($t(175) = .87, \text{two-tail } p < .39$). More experience attributes were elicited after DPE than AD ($t(175) = 3.24, p < .0007$) for this data, thus supporting Proposition 1. There were no higher order interactions with this effect.

There was only one at least marginally significant higher order interaction for the test of whether involvement moderated the influence of media type for the number of search attributes elicited. This concerned ordinal position ($t(175) = 1.67, \text{two-tail } p < .10$). For the first position data, involvement moderated the influence

of media type on search attributes ($t(175) = 1.42, p < .08$). More search attributes were elicited after AD than DPE for low involvement ($t(87) = -2.35, p < .01$) thus supporting Proposition 2. The difference between AD and DPE was not significant for high involvement ($t(87) = -.64, p < .26$).

In summary, involvement moderated the the media congruence interaction of media type and attribute type for the number of important attributes elicited, thus supporting IIIH2a.

Belief Strength Variables

Contrary to IIIH2b, involvement did not moderate the basic attribute type X media type interaction for belief confidence ($t(174) = .00, p < .49$) or for belief accessibility ($t(165) = .28, p < .39$). For the dependent variable belief type confidence, there was a significant interaction of attribute type and medium ($t(174) = 12.23, p < .0001$). For the dependent variable belief type accessibility, there was a significant interaction of attribute type and medium ($t(165) = 6.73, p < .0001$). There were no higher order interactions present with the above four belief confidence and accessibility effects. Table V-2 shows the means for the belief strength variables.

For experience belief confidence there was a higher order interaction of product (but not position) with the involvement X media effect ($t(175) = 2.20, p < .03$). The involvement X media effect was marginally significant for the bike ($t(175) = 1.68, two-tail p < .09$, and for the

chair-bed ($t(175) = 1.89$, two-tail $p < .06$). These results show that contrary to IIIH2b, involvement influenced the effect of media type on experience belief confidence (see Table 19). In other words, involvement moderated the simple main effect predicted by Proposition 1.

As with the other cognitive variables in this experiment, a test was conducted to determine if experience belief confidence was higher for DPE than AD (i.e., the test of the media type effect predicted by Proposition 1). The involvement X media type higher order interactions were reported above and were marginally significant. (Because the data were already divided by product for those tests, the test of the higher order interaction of product and media type was not needed.) For the bike, there was a higher order interaction of ordinal position with the basic effect of media type ($t(175) = 1.84$, two-tail $p < .07$), therefore the second position data were eliminated from the test of Proposition 1 for the bike data. Proposition 1 was directionally supported for the bike data for low involvement ($t(43) = 1.17$, $p < .12$) and significantly supported for high involvement ($t(43) = 4.41$, $p < .0001$). There was no higher order interaction of ordinal position and media type for the chair data. Proposition 1 was supported for the chair data for low involvement ($t(87) = 4.78$, $p < .0001$) and for high involvement ($t(87) = 2.10$, $p < .02$). In sum,

Proposition 1 was supported for belief confidence by this data.

Search belief confidence was examined in a similar manner. There was a higher order interaction of product (but not position) with the involvement X media type effect ($t(174) = 1.67$, two-tail $p < .10$). For the bike, the interaction of involvement and media type was significant ($t(174) = 1.93$, $p < .03$), while for the chair-bed it was not ($t(175) = 1.09$, $p < .14$).

As with experience belief confidence, a test was conducted to determine if search belief confidence was higher for DPE than AD (i.e., the test of the media type effect predicted by Proposition 2). The involvement X media type higher order interactions were reported above. (Because the data were already divided by product for those tests, the test of the higher order interaction of product and media type was not needed.) There were no higher order interactions of position with media type. Search belief confidence was higher for AD than DPE for the bike data for low involvement ($t(87) = -1.64$, $p < .05$) but not for for high involvement ($t(86) = 1.13$, $p < .13$). Because of the non-significant interaction of involvement with media type explained above, Proposition 2 was tested and supported for both levels of involvement for the chair-bed data ($t(175) = 4.65$, $p < .0001$). Proposition 2 was generally supported for belief confidence in this experiment.

There were no higher order effects of position or product in testing whether involvement moderated media effects on experience belief accessibility and on search belief accessibility. As predicted, this involvement X media type interaction was non-significant for experience attributes ($t(174) = 1.2$, two-tail $p < .23$). Contrary to IIIH2b, this interaction was non-significant for search attributes ($t(166) = .72$, $p < .24$).

There were no higher order interactions in testing Propositions 1 and 2 for belief accessibility. Experience attribute accessibility was higher for DPE as predicted by Proposition 1 ($t(174) = 6.10$, $p < .0001$) and search attribute accessibility was higher for AD as predicted by Proposition 2 ($t(166) = -3.49$, $p < .0003$). Propositions 1 and 2 were strongly supported for the belief accessibility measures.

With no higher order interactions, the basic moderating role of involvement of the effect of media type on belief accuracy was in the predicted direction but non-significant ($t(175) = 1.1$, $p < .14$). In testing whether search belief accuracy is higher for AD than DPE (i.e., Proposition 2), there was a higher order interaction of product (but not position) with the effect of interest ($t(175) = 2.23$, two-tail $p < .03$). For the bike, AD produced greater accuracy ($t(175) = -1.6$, $p < .06$) and for the chair-bed this was true also ($t(175) = -3.53$, $p < .0003$). In summary, the test of IIIH2c had null results,

while Proposition 2 was supported for the accuracy measures.

Attribute Type Importance Weight

IIIH3 predicted that involvement moderates the attribute type X media type interaction in its effect on attribute importance weights. It was found that there was an interaction of the effect of interest with the order of product exposure ($t(175) = 1.82$, two-tail $p < .07$), but not with product type. As in IIIH2a, only the first product exposure data was used in testing the hypothesis, because of this interaction. With this data, IIIH3 was supported ($t(175) = 2.00$, $p < .02$) in the direction predicted. The predicted directional interaction of media type and attribute type was also supported by this data for low involvement ($t(87) = 4.15$, $p < .0001$) and for high involvement ($t(87) = 1.43$, and $p < .08$). There were no higher order interactions with product for these two tests.

There was a higher order interaction of position (but not product) with the involvement X media effect ($t(175) = 2.02$, two-tail $p < .04$) on experience attributes' weighting. With only the first position data used, there was a significant interaction of involvement with media type ($t(175) = 2.13$, one-tail $p < .02$) as predicted. There was no higher order interaction of product and media type for low or high involvement. Experience attributes' weighting was higher for DPE than for AD using the first

position data for low involvement ($t(87) = 4.28, p < .0001$) and for high involvement ($t(87) = 1.41, p < .08$). In sum, Proposition 1 was well supported by this data.

With no higher order interactions with product or position, involvement did not significantly influence the effect of media type on the weighting of search attributes elicited ($t(175) = .85, p < .20$). There was a higher order interaction of position ($t(175) = 1.68, \text{two-tail } p < .09$) but not product for the test of whether there was a larger weighting of search attributes after AD than DPE (from Proposition 2). There was a larger weight for search attributes after AD than DPE for the first position data ($t(175) = -3.7, p < .0002$). In sum, IIIH3 and Propositions 1 and 2 were well supported by this data.

MANOVA Tests

A multivariate analysis of variance (MANOVA) was performed to see if the basic involvement X attribute type X media type interaction was similar across the following cognitive measures: the number and weighting of the important attributes elicited, belief confidence and belief accessibility. In previous tests of this interaction in this experiment, there were four dependent variables representing each attribute type and media type combination, because attribute type and media type were repeated factors. As in Experiment II, the MANOVA test could only be performed with one dependent variable for each of the belief constructs. A dependent variable was

created for each construct which consisted of the difference between search and experience attributes for that construct. With these constructed dependent variables and media type as an independent variable, the test of the media type X attribute type interaction was actually the main effect of media type (i.e., the difference between AD and DPE). The involvement X attribute type X media type interaction was thus actually the interaction of involvement with the main effect of media type. The following description reports the statistics for the effect of interest.

The MANOVA revealed a higher order interaction of ordinal position ($F(4,172) = 3.29, p < .01$) but not product with the involvement X attribute type X media type effect, therefore only the first position data were used for its test. The involvement X attribute type X media type interaction was insignificant ($F(4,163) = 1.34, p < .26$). Because this interaction was non-significant and the higher order interactions of product and ordinal position with the attribute type X media type effect were non-significant, the basic test of media congruence effects was performed for all of the data together. This MANOVA testing the attribute type X media type interaction predicted by Propositions 1 and 2 together was extremely significant ($F(4,162) = 42.03, p < .0001$).

The MANOVA model testing whether involvement decreased media effects on cognitive experience attribute

variables used the first ordinal position data because of a higher order interaction of ordinal position with the involvement X media type interaction ($F(4,173)= 1.96, p=.10$). There was no higher order interaction with product type. Involvement had a non-significant effect on the media type influence ($F(4,172)= 1.64, p< .17$). It should be noted that involvement was predicted to have no significant effect for three of these four variables. As in Experiments 1 and 2, the superiority of DPE in communicating experience attributes was supported for this data ($F(4,172)= 35.08, p< .0001$), thus supporting Proposition 1. There was no higher order interaction of ordinal position or of product with this effect.

There were no higher order interactions of product or position with the effect testing whether involvement decreased media effects on cognitive search attribute variables. Involvement had a non-significant effect on the media type effect ($F(5,162)= .63, p< .68$). To test Proposition 2, product and ordinal position interactions with media type were tested. Only the higher order interaction of product with media type was significant for these search attribute cognitive variables ($F(5,171)= 3.17, p< .01$). As in Experiments 1 and 2, the superiority of AD in communicating search attributes was supported for the bike ($F(5,166)= 2.40, p< .04$) and the chair ($F(5,167)= 6.34, p< .0001$), thus supporting Proposition 2.

In summary, involvement did not moderate the significant media congruence interaction of media type and attribute type for the four cognitive dependent variables put together. It should be noted that this interaction was significant for two of the four variables when analyzed individually. The variables concerning attribute importance weights were significant while the measures of belief strength were not. The interaction predicted by Propositions 1 and 2 together was significant in the MANOVA analyses of the four cognitive variables.

Involvement Effects on Attitude Strength and A-B Consistency

IIIH4 predicted an interaction of involvement, attribute type importance and media type in their effects on attitude confidence. Hypothesis 4 in Experiment II tested this effect without the variable involvement. Using an identical procedure as in Experiment II, the result was non-significant in ($t(133) = 1.06, p < .15$). The above interaction without the involvement factor (i.e., EIIH4) was in the predicted direction but not significant ($t(133) = 1.18, p < .12$). There were no higher order interactions of product or position with these two effects. Table 20 illustrates these tests.

IIIH6 predicted that involvement moderates the effects of media congruence on attitude-behavior consistency. H6 in Experiment II tested a similar effect without the variable involvement so an identical procedure was used for Experiment III. In order to test for any

Table 20

Experiment III-Hypothesis 4: The Interaction of Involvement, Attribute Type Importance* and Media Type in Their Effects on Attitude Confidence

Dependent Variable: Attitude Confidence

	Low Involvement		High Involvement	
	AD	DPE	AD	DPE
SEARCH	5.48	5.60	5.63	5.80
(N)	(65)	(50)	(58)	(52)
MOST IMPORTANT ATTRIBUTE TYPE*				
EXPERIENCE	5.95	6.03	5.54	5.98
(N)	(20)	(39)	(21)	(33)
	Low & High Involvement			
		AD	DPE	
SEARCH	5.55	5.70		
(N)	(123)	(102)		
MOST IMPORTANT ATTRIBUTE TYPE*				
EXPERIENCE	5.74	6.00		
(N)	(41)	(72)		

* In the analysis, attribute type importance was actually a continuous variable consisting of the difference between the two attribute type weights. This variable was dichotomized in these tables only to illustrate the direction of the results.

higher order interactions, a MAX model was run and revealed no significant interaction of the effect of interest with ordinal position or product. The MAX statistical model with all of the possible interactions of the variables involved had 61 estimated effects plus the individual subjects effects. Such a large model could produce unstable estimates of these effects. As in Experiment II, the final hypothesis test of this and other attitude-behavior consistency tests in this experiment used a MIN model. The effect predicted by H6 was non-significant ($t(116) = .00, p < .48$). Without the involvement factor (i.e., EIIH6) the effect was also non-significant ($t(122) = .79, p < .21$) and had no higher order interaction with product or position. Table 21 illustrates these results.

IIIH5 predicted that involvement increases attitude-behavior consistency. Because H5 was actually a subset of the larger effect predicted in H6, this effect was tested alongside IIIH6. In the MAX model, it was found that the moderating effect of involvement on A-B consistency had no higher order interaction with product or ordinal position but did have a marginally significant higher order interaction with attribute type importance X treatment ($t(82) = 1.3, p < .10$). This was the hypothesized effect in H6, but was not the final test of that hypothesis. The test of H5 was directionally supported for AD exposure when search attributes were more important ($t(102) = 1.14,$

Table 21

Experiment III-Hypotheses 5 and 6

Dependent Variable: Choice (1-Money or 2-Product)*

		SEARCH: MOST IMPORTANT ATTRIBUTE TYPE			
		AD		DPE	
		LO ATT	HI ATT	LO ATT	HI ATT
INVOLVEMENT	LOW	1.23	1.46	1.00	1.51
	(N)	(22)	(41)	(11)	(37)
	HIGH	1.13	1.54	1.17	1.61
	(N)	(15)	(35)	(12)	(36)

		EXPERIENCE: MOST IMPORTANT ATTRIBUTE TYPE			
		AD		DPE	
		LO ATT	HI ATT	LO ATT	HI ATT
INVOLVEMENT	LOW	1.13	1.36	1.10	1.52
	(N)	(8)	(11)	(10)	(25)
	HIGH	1.22	1.45	1.08	1.30
	(N)	(9)	(11)	(12)	(20)

Dependent Variable: Correlation of Attitude (low or high) with choice (money or product)

		LOW INVOLVEMENT		HIGH INVOLVEMENT	
		AD	DPE	AD	DPE
SEARCH		.23	.44	.38	.38
	(N)	(63)	(48)	(50)	(48)
MOST IMPORTANT ATTRIBUTE TYPE*	EXPERIENCE	.27	.39	.24	.25
	(N)	(19)	(35)	(20)	(32)

		LOW & HIGH INVOLVEMENT	
		AD	DPE
SEARCH		.30	.41
	(N)	(113)	(96)
MOST IMPORTANT ATTRIBUTE TYPE*	EXPERIENCE	.25	.34
	(N)	(39)	(67)

* In the testing of EIIH5, attribute type importance was dichotomized because of the higher order interaction of that variable (and media type) with the effect of interest using a MAX model. In the testing of EIIH6, attribute type importance was a continuous variable consisting of the difference between the two attribute type weights.

$p < .13$), but not when experience attributes were more important ($t(28) = -1.93$, $p < .03$). The test of IIIH5 was inconclusive for DPE exposure when search attributes were more important ($t(85) = -.00$, $p < .47$), and not supported for DPE when experience attributes were more important ($t(56) = -1.12$, $p < .13$). The moderating role of involvement in A-B consistency was not supported in this experiment.

Other Results

In the first hypothesis in Smith and Swinyard's (1983) work, attitudes were predicted to be more extreme after DPE than after AD. In Experiment III, involvement and media type did not interact ($t(174) = .35$, two-tail $p < .73$). The effect of media type on the attitude polarity measure interacted with ordinal position ($t(174) = 1.84$, two-tail $p < .07$) but not product, therefore only data from the first ordinal position were used in testing Smith and Swinyard's hypothesis. There was no difference between the attitude polarity of AD vs. DPE for both products together ($t(175) = -.69$, one-tail $p < .25$). It should be noted that this result did not support Smith and Swinyard's claim and is consistent with the idea discussed in Chapter 2, that there is no reason to believe that DPE (or AD) must produce increased intensity of valence.

As in Experiments I and II, attitude confidence was greater for DPE than AD ($t(173) = 2.26$, one-tail $p < .01$) while the difference between AD and DPE for attitude

accessibility was non-significant ($t(175) = .75$, one-tail $p < .23$). The difference was also non-significant for attitude persistence ($t(174) = -.56$, one-tail $p < .29$). There was no main effect of involvement on attitude confidence ($t(173) = .53$, one-tail $p < .30$), attitude accessibility ($t(175) = .79$, one-tail $p < .22$) or attitude persistence ($t(174) = .10$, one-tail $p < .46$) in these models. There were no relevant higher order interactions for these six tests.

The test of whether attitude-behavior consistency was higher for AD or DPE was actually a part of the hypothesized effect in IIIH6 and was tested in a similar manner as the hypothesized attitude X involvement effect from IIIH5. The moderating role of medium in A-B consistency had a marginally significant higher order interaction with attribute type importance X involvement ($t(82) = 1.3$, $p < .10$). There was no higher order interaction with product or position. In a MIN model, DPE produced higher A-B consistency for low involvement when search attributes were important ($t(100) = 1.46$, $p < .07$) and when experience attributes were more important ($t(43) = 1.78$, $p < .04$). The results were inconclusive for high involvement when search attributes are more important ($t(87) = .32$, $p < .37$). AD produced higher A-B consistency when experience attributes were more important ($t(41) = 1.20$, $p < .12$). From these data, one cannot conclude that DPE must yield significantly higher attitude-behavior

consistency. This is evidence contrary to past works reviewed in Chapter 2 (Regan and Fazio, 1977; Fazio and Zanna, 1978b; Smith and Swinyard, 1983; Berger and Mitchell, 1989) that found A-B consistency higher for direct experience.

In Experiment III, the measures of confidence in various beliefs showed that subjects were more certain in their attribute beliefs after AD than after DPE for 10 of the 31 product attributes. Not all of these differences were statistically significant. This is additional evidence against Smith and Swinyard's (1988), and Marks and Kamins' (1988) prediction that important beliefs are more confidently held after DPE. Also, 12 out of the 31 beliefs were more accessible after AD than DPE in this experiment (not all were statistically significant). Tables 22 and 23 show the individual beliefs' confidence and accessibility grouped according to product and attribute type.

A simple t-test of the one credence belief elicited ("improves cardiovascular health") revealed that there was no significant difference between AD and DPE concerning belief confidence ($t(182) = -.74$, two-tail $p < .46$) and accessibility ($t(165) = -1.19$, two-tail $p < .24$). With no higher order interaction with product, position or involvement, the number of credence attributes elicited was basically identical for AD and DPE ($t(175) = .00$,

Table 22

Experiment I: Confidence and Accessibility of Attribute Beliefs

(n= 184 unless indicated)

Stationary Bicycle Belief Confidence (Standard Deviation)			
Attribute	AD	DPE	$H_0: \bar{x}_1 = \bar{x}_2$
SEARCH			
book rack	6.89 (.43)	6.72 (.94)	t=1.61, p<.11
timer	6.62 (.91)	6.78 (.59)	t=-1.44, p<.15
adjustable seat and handlebars	6.65 (.92)	5.91 (1.50)	t=4.03, p<.0001
speedometer	6.41 (.97)	6.76 (.62)	t=-2.89, p<.004
price	6.73 (.62)	6.03 (1.62)	t=3.89, p<.0002
pedal straps ³	6.75 (.91)	6.98 (.15)	t=-2.37, p<.02
pedal effort controls	6.21 (1.35)	6.37 (1.22)	t=-.86, p<.39
displays distance	6.40 (1.06)	6.04 (1.44)	t=1.93, p<.06
how large	5.27 (1.84)	5.92 (1.21)	t=-2.84, p<.005
appearance	6.12 (.88)	6.17 (1.15)	t=-.36, p<.72
selection of features	5.89 (1.10)	6.05 (1.16)	t=-.98, p<.33
EXPERIENCE			
easy to adjust pedal effort controls	5.21 (1.87)	5.73 (1.73)	t=-1.96, p<.05
seat comfort	4.27 (2.10)	6.21 (1.07)	t=-7.86, p<.0001
general comfort	4.26 (1.89)	6.13 (1.07)	t=-8.25, p<.0001
sturdy	4.48 (1.96)	5.80 (1.23)	t=-5.48, p<.0001
quality	4.93 (1.70)	5.87 (1.22)	t=-4.29, p<.0001
CREDESCENCE			
improves cardiovascular health	5.76 (1.42)	5.60 (1.55)	t=.74, p<.46

Table 22--continued

Belief Response Time (Standard Deviation)			
Attribute	AD	DPE	H ₀ : $\bar{x}_1 = \bar{x}_2$
SEARCH			
book rack	6.44 (2.71)	6.87 (3.32)	t=-.97, p<.34
timer	5.15 (2.92)	5.10 (2.92)	t=.13, p<.89
adjustable seat and handlebars	5.25 (2.72)	6.51 (4.29)	t=-2.40, p<.02
speedometer	4.07 (2.57)	3.75 (2.37)	t=.88, p<.38
price	3.78 (1.98)	4.61 (2.86)	t=-2.28, p<.02
pedal straps	4.80 (2.46)	4.55 (2.17)	t=.75, p<.45
pedal effort controls ¹	6.41 (3.61)	6.45 (2.63)	t=-.09, p<.93
displays distance ³	4.80 (2.49)	6.54 (5.19)	t=-2.89, p<.005
how large ³	6.92 (3.14)	6.71 (2.85)	t=.47, p<.64
appearance	6.08 (2.77)	5.76 (2.62)	t=.80, p<.42
selection of features	7.37 (3.80)	7.37 (3.22)	t=-.0057, p<.996

Belief Response Time (Standard Deviation)			
Attribute	AD	DPE	H ₀ : $\bar{x}_1 = \bar{x}_2$
EXPERIENCE			
easy to adjust pedal effort controls	9.45 (3.67)	8.28 (3.37)	t=2.26, p<.02
seat comfort	7.74 (3.35)	6.09 (2.65)	t=3.71, p<.0003
general comfort ³	6.83 (3.29)	6.02 (2.42)	t=1.88, p<.06
sturdy	5.37 (2.67)	5.26 (2.65)	t=.29, p<.77
quality	6.49 (3.45)	6.28 (2.94)	t=.44, p<.66
CREDESCENCE			
improves cardiovascular health ³	9.61 (4.86)	8.86 (3.56)	t=1.89, p<.24

¹ n = 181

² n = 182

³ n = 183

Table 23

Experiment III: Confidence and Accessibility of Attribute Beliefs

(n= 184 unless indicated)

Fold-Out Chair-Bed			
Belief Confidence (Standard Deviation)			
Attribute	AD	DPE	$H_0: \bar{x}_1 = \bar{x}_2$
SEARCH			
Price ¹	6.53 (.92)	6.01 (1.50)	t=-2.81, p<.006
Color ²	5.73 (1.31)	4.24 (1.73)	t=6.57, p<.0001
100% cotton ³	5.84 (1.46)	4.72 (1.82)	t=4.60, p<.0001
Scotchgard ³	6.60 (1.05)	5.79 (1.72)	t=3.83, p<.0002
Washable	5.93 (1.53)	5.57 (1.90)	t=1.45, p<.15
Attractive appearance	6.07 (1.11)	6.32 (1.03)	t=-1.59, p<.11
Space it takes up	5.78 (1.35)	6.11 (1.21)	t=-1.73, p<.09
EXPERIENCE			
Easy to fold in & out	5.87 (1.38)	6.23 (1.35)	t=-1.78, p<.08
Firm	5.63 (1.71)	6.48 (.97)	t=-4.14, p<.0001
Comfort as a chair	5.08 (2.04)	6.30 (1.19)	t=-4.99, p<.0001
Comfort as a bed	5.17 (2.07)	6.20 (1.89)	t=-4.11, p<.0001
Sturdy	4.97 (1.90)	5.75 (1.39)	t=-3.20, p<.002
Retains it shape when used as a chair	4.66 (2.00)	5.88 (1.40)	t=-4.78, p<.0001
Convenient	5.83 (1.36)	6.13 (1.22)	t=-1.60, p<.11

Table 23--continued

Attribute	Fold-Out Chair-Bed Belief Response (Standard Deviation)		$H_0: \bar{x}_1 = \bar{x}_2$
	AD	DPE	
SEARCH			
Price ¹	5.76 (3.30)	5.71 (2.51)	t=.10, p<.92
Color ²	6.85 (3.06)	8.13 (3.46)	t=-2.64, p<.009
100% cotton ³	5.72 (2.84)	6.95 (4.32)	t=-2.28, p<.02
Scotchgard ³	4.19 (2.26)	4.68 (2.77)	t=-1.31, p<.19
Washable	4.58 (2.25)	4.96 (3.70)	t=-.84, p<.40
Attractive appearance	6.50 (3.04)	5.86 (2.76)	t=1.50, p<.13
Space it takes up	8.15 (3.01)	8.55 (3.74)	t=-.81, p<.42
EXPERIENCE			
Easy to fold in & out	8.97 (4.15)	8.24 (3.83)	t=1.24, p<.22
Firm	6.30 (2.95)	5.25 (2.35)	t=2.67, p<.008
Comfort as a chair	8.01 (3.66)	6.89 (3.05)	t=2.26, p<.03
Comfort as a bed	7.26 (3.23)	7.76 (3.80)	t=-.97, p<.33
Sturdy	5.49 (2.42)	5.44 (2.76)	t=.13, p<.90
Retains it shape when used as a chair	9.73 (3.55)	8.95 (3.52)	t=1.50, p<.14
Convenient	6.00 (3.21)	5.58 (2.39)	t=1.02, p<.31

¹ n= 181

² n= 182

³ n= 183

two-tail $p < 1.00$) and their weighting was similar for AD and DPE ($t(175) = -.92$, two-tail $p < .36$).

Attitude Strength Variables

Three attitude strength variables were measured in Experiment III. As a review, attitude persistence consisted of the difference between the attitude elicitation immediately after product exposure and the elicitation after the subject answered a number of questions including the two products' behavioral choice, purchase intentions and a listing of the products' important attributes. This is an improvement over the measurement of attitude persistence in past works (e.g., Watts, 1967) wherein subjects had the opportunity to gain more information about the product or product class during the intervening time between the two attitude elicitations.

With all possible involvement, product, treatment, order and within subjects effects partialled out of the three attitude strength variables, the partial correlation between attitude confidence and accessibility was $-.02$ (one-tail $p < .38$, $df = 160$, $n = 352$); between confidence and persistence was $-.11$ (one-tail $p < .08$, $df = 160$, $n = 352$); and between accessibility and persistence was $.10$ (one-tail $p < .09$, $df = 160$, $n = 352$). The simple Pearson correlations among these variables were $-.09$, $.04$ and $.05$ respectively. Table 24 shows these and other correlations. The accessibility measure had an attitude

Table 24

Correlations of Attitude and Belief Strength Variables
in Experiment III

Pearson Correlation Coefficients / (Probability > $\pm R$ Under H_0 :
RHO=0) / Number of Observations

	Belief Access	Attitude Confidence	Attitude Access	Attitude Persistence
Belief Confidence	-.06 (.23) 355	.36 (.0001) 365	-.04 (.40) 367	.05 (.34) 366
Belief Access		.04 (.50) 354	.45 (.0001) 356	.01 (.90) 355
Attitude Confidence			-.09 (.08) 366	.04 (.47) 365
Attitude Access				.04 (.41) 367

Partial Correlation Coefficients from the Error SS and CP
Matrix / (Probability > $\pm R$ Under H_0 : RHO=0) / DF=160

	Belief Access	Attitude Confidence	Attitude Access	Attitude Persistence
Belief Confidence	.03 (.74)	.26 (.0009)	.02 (.81)	-.04 (.62)
Belief Access		.09 (.25)	-.10 (.19)	.10 (.21)
Attitude Confidence			-.02 (.77)	-.11 (.16)
Attitude Access				.10 (.18)

response time baseline influence partialled out of the four correlations involving that measure. This baseline consisted of a question concerning the subject's sex. Attitude confidence, accessibility and persistence were thus not significantly related in Experiment III. The large sample size made this empirical result even more convincing.

Belief confidence and accessibility were also not significantly related. Their partial correlation was .03 (one-tail $p < .37$, $df = 160$, $n = 352$) and their Pearson correlation was $-.06$ (one-tail $p < .11$, $n = 355$). The partial correlation had all possible treatment, product and order effects removed from the variables. Belief accessibility had a belief response time baseline influence removed in both of these correlations.

Discussion

Involvement

In summarizing the tests of the hypotheses, the hypothesized interaction of involvement with attribute type and media type was significant for both of the attribute importance variables (IIIH2a and IIIH3). The level of message processing involvement had no significant effect on belief strength as represented by measures of belief confidence, accessibility and accuracy. The MANOVA analysis and individual tests show a trend supporting the simple interaction of media type and attribute type for

the four cognitive variables (under low involvement for some of the measures). This is evidence that Propositions 1 and 2 can be applied to consumer durables as well as non-durables.

An important result in Experiment III was that the type of medium (AD or DPE) can influence the weighting of attributes in making a product class decision. In other words, the medium can change how a person views a product class. Consistent with Propositions 1 and 2, media type and attribute type had a significant influence on the number and weighting of search attributes and experience attributes under low involvement. What this means is that the marketer can use the natural focus of AD or DPE to make a brand's strong points look more important. The next chapter treats the theoretical and managerial implications of this and other empirical results from the three experiments in more detail.

It was also valuable to demonstrate that a higher level of media processing involvement can make consumers less vulnerable to AD and DPE strengths in influencing the types and weights of important product attributes. It makes intuitive sense that consumers are more likely to be manipulated by a medium in their framing of a product when they are less vigilant in scrutinizing the content and claims of a media exposure.

The lack of some of the predicted significant effects of message processing involvement can be interpreted in a

number of ways. It is possible that the subjects were not greatly influenced by the manipulation. It is possible that when subjects know that they will get credit for an experiment no matter what their level of attention, they are not motivated to greatly increase their attention no matter what they are told. It should be noted that the manipulation used was similar to a very successful manipulation used by Petty, Cacioppo and Schumann (1983) and had more aspects than Celsi and Olson's (1988) successful use of a lottery in manipulating involvement.

If this experiment's manipulations were successful, one could interpret the belief strength results as evidence that the effects of Propositions 1 and 2 are so strong that they transcend the amount of motivation to process the media exposure (i.e., involvement). Though the interaction of message processing involvement with attribute type and media type was significant for attribute importance measures, this interaction was not significant for the belief strength variables, belief confidence and accessibility. This would indicate that message processing involvement might have a stronger influence on the use of beliefs and not on their strength.

Accessibility vs. Confidence

As in Experiments I and II, DPE attitudes were held with a significantly higher level of confidence but not with a significantly higher level of accessibility when compared to attitudes derived from AD in Experiment III.

This is of special note because this study had a very large sample size and greater statistical power to detect any difference in accessibility between the two treatments. The correlations of attitude confidence, accessibility and persistence were quite low in this study. This supports Raden's (1985) claim that attitude strength is multidimensional. Also, the belief strength variables, belief confidence and belief accessibility, were not significantly related.

The Search, Experience and Credence Framework

Tables 25 and 26 show a brief summary of results from Experiments I, II and III (the "objective" and subjective" terminology is explained during the last part of Chapter 4). Combining the results from all three experiments presents a very consistent picture. Though the categorization of search and experience attributes is open to some amount of interpretation, it seems to have a very robust and significant character in indicating which types of information will be effectively communicated by AD and DPE. The 86.63% judges' agreement rate in Experiment III is evidence that the search-experience-credence framework forms a reliable categorization scheme.

Taken together, the three experiments present very strong evidence for Propositions 1 and 2 for durable and non-durable products. The propositions show which product attributes are best communicated by advertising and which are best communicated by direct experience in the form of

Table 25

Summary of Experiments I, II and III (EI, EII and EIII):
Experience Attribute Dependent Variables

	Result Supports Proposition?, Significance Level
PROPOSITION 1: DPE is more effective than AD in presenting experience attributes.	
experience attributes as a proportion of the cognitive responses elicited	EI: YES, p<.0001
experience attributes as a proportion of the important attributes elicited	EI: NULL, p<.20
number of important experience attributes elicited (low and high involvement)	EIII: YES, p<.0007
importance weight for experience attributes (low involvement)	EIII: YES, p<.0001
(high involvement)	EIII: YES, p<.08
experience belief confidence	EI: YES, p<.0004
(bike low involvement)	EII: YES, p<.0009
(bike high involvement)	EIII: NULL, p<.12
(chair low involvement)	EIII: YES, p=.0001
(chair high involvement)	EIII: YES, p=.02
experience belief accessibility	EI: YES, p<.02
(low and high involvement)	EII: NULL, p<.42
	EIII: YES, p<.0001

Table 26

Summary of Experiments I, II and III (EI, EII and EIII):
Search Attribute Dependent Variables

	Result Supports Proposition?, Significance Level
PROPOSITION 2: AD is more effective than DPE in presenting search attributes.	
search attributes as a proportion of the cognitive responses elicited	EI: YES, $p < .005$
search attributes as a proportion of the important attributes elicited	EI: YES, $p < .02$
number of important search attributes elicited (low involvement)	EIII: YES, $p < .01$
(high involvement)	EIII: NULL, $p < .26$
importance weight for search attributes (low and high involvement)	EIII: YES, $p < .0002$
search belief confidence- subjective meas.	EI: NULL, $p < .12$
search belief confidence- objective meas. (chair low and high involvement)	EII: YES, $p < .0005$ EIII: YES, $p < .0001$
(bike low involvement)	EIII: YES, $p < .05$
(bike high involvement)	EIII: NULL, $p < .13$
search belief accessibility-subjective meas.	EI: NULL, $p < .29$
search belief accessibility- objective meas. (low and high involvement)	EII: YES, $p < .01$ EIII: YES, $p < .0003$
search belief encoding accuracy (bike low and high involvement)	EI: YES, $p < .0001$ EII: YES, $p < .0001$ EIII: YES, $p < .06$
(chair low and high involvement)	EIII: YES, $p < .0003$
search belief memory accuracy	EI: YES, $p < .02$
search belief memory decay (possible ceiling effect)	EI: NO, $p < .05$

consumer promotions. They also provide a contingency for various researchers' predictions about the superiority of direct experience (e.g., Fazio and Zanna, 1981; Smith and Swinyard, 1983, 1988; and Marks and Kamins, 1988). The basic contingency is that DPE has an advantage for a product with a large experience attribute component, but not necessarily for a product with a large search attribute component. In fact, indirect experience in the form of advertising is superior to direct experience in presenting search attributes.

Summary

Experiment III's unique contribution was in demonstrating how a medium affects the importance weights of a product's attributes and how increased motivation for consumers to attend to and process media exposures changes those observed media effects. The study provided additional evidence for Propositions 1 and 2 for a different type of product (durables) and supported the notion that attitude strength is a multidimensional construct. The next chapter addresses limitations of these results and others in Experiments I and II. Theoretical and managerial applications of these results are discussed.

CHAPTER 6
IMPLICATIONS AND LIMITATIONS

Overview

AD and DPE as Modes of Communication

AD and DPE are different modes of communicating new information about a product. The preceding chapters have examined the strengths and weaknesses of these two media and conditions when each is superior in communicating certain types of information. The focus of the hypotheses was the strength of beliefs and attitudes derived from AD vs. DPE with a special focus on the strength dimensions of confidence and accessibility.

Belief strength has important theoretical implications for attitude formation and attitude-behavior consistency, because "strong" beliefs lead to "strongly held" attitudes that are more likely to guide purchase behavior. This link between beliefs, attitudes and attitude-behavior consistency was the basis for Smith and Swinyard's (1982) model comparing attitudes derived from sampling and advertising.

An undercurrent of the development of the three experiments in this work is an emphasis on attitude and decision theory. An attitude toward a product can be very

positive but be so weakly held that it has little influence on a behavioral decision. It is not enough for the marketer to know product attitude valence; it is also important to understand the strength dimensions of that same attitude. The study of attitude strength variables like attitude accessibility, confidence and persistence addresses important questions about the nature of attitudes and their ability to predict behavior.

Contingency Variables

Smith and Swinyard's (1982) model did not specify situations when advertising can be superior to DPE in producing strong beliefs and attitudes. The preceding chapters presented theory and strong empirical evidence that qualifies various researchers' theoretical predictions about the superiority of DPE in regard to cognitive and attitudinal variables (e.g., Smith and Swinyard, 1983, 1988; Fazio and Zanna, 1981). The search vs. experience contrast was used in qualifying those predictions.

Using the contingency variable of attribute type, Experiment I qualified predictions of DPE superiority in producing belief strength. Proposition 1 stated that DPE is more effective than AD in presenting experience attributes of a product while Proposition 2 stated that AD is more effective than DPE in presenting search attributes. The strong empirical support for these propositions in the three experiments together (see Tables

25 and 26 in Chapter 5) has important implications that will be examined later in this chapter.

Experiment II added the contingency of attribute type importance in specifying when DPE would have a stronger effect than AD and vice versa. It predicted that for a product where experience attributes are important, DPE (e.g., a taste test in the supermarket, test driving a car) would be more efficient than advertising in presenting new information about a product. The propositions provided a contingency for when DPE is superior using the idea of media congruence. When experience attributes dominate the set of important product attributes, then the product is media congruent with DPE, while if search attributes dominate, then the product is media congruent with AD exposure. Experiment II empirically demonstrated that attitude confidence and A-B consistency can actually be higher for advertising than DPE for a product with a large percentage of important search attributes ($p < .05$ and $p < .10$ respectively).

Experiment III added the contingency of message processing involvement to this. The intuitive reasoning was that when a consumer is vigilantly processing a medium's exposure, s/he will attend to and process the information s/he thinks is important and not be at the mercy of the medium's particular slant or bias. Under low involvement, the individual is more at the mercy of the

medium's focus and media congruence has a greater effect. In Experiment III, the level of message processing involvement only had a significant effect on the number of and weighting of important attributes used in a brand choice decision.

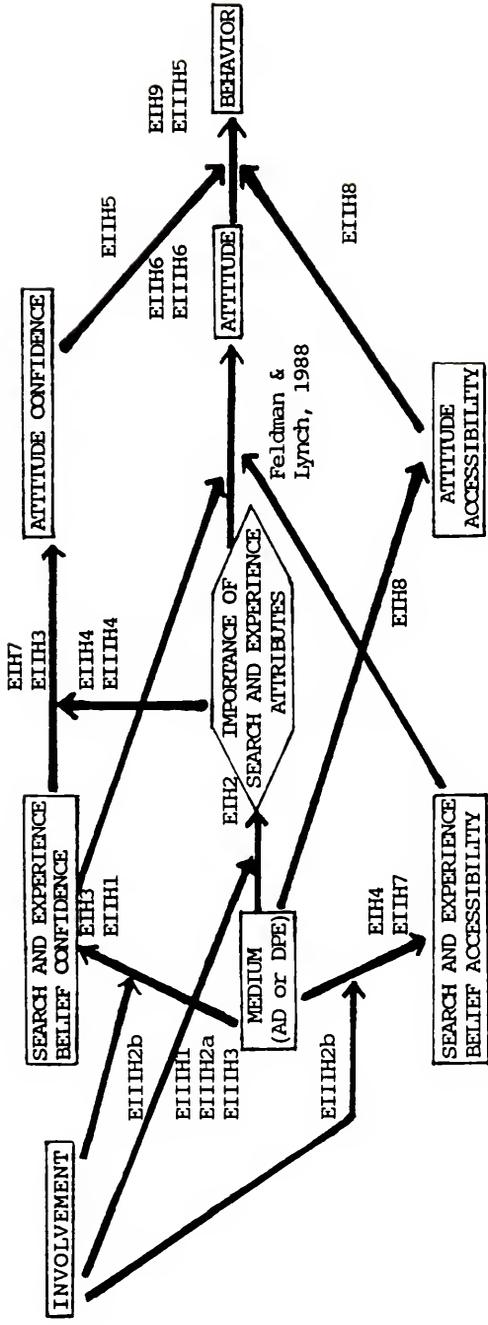
A Conceptual Framework

Unifying the Important Variables' Effects

Generally speaking, the previous discussion can be organized into a framework of media effects on belief confidence, attribute importance and belief accessibility which in turn influence attitude, attitude strength and A-B consistency. The conceptual framework in Figure 2 shows the three basic constructs common to all three experiments- confidence, accessibility and importance. Their effects are represented in the form of three "branches" in the framework. This model can be used to link the the specific hypotheses which were tested.

The Confidence Branch

The first branch in the model is the confidence branch. This is the line of connections between medium (AD or DPE), search and experience belief confidence, attitude confidence and A-B consistency. The connections between medium, belief confidence, attitude confidence and attitude-behavior consistency in this branch are the foundation of Smith and Swinyard's (1982) Integrated Information Response Model discussed in Chapter 2. Each



Key: EIIH2a is Hypothesis 2a within Experiment III

Figure 2. Conceptual Framework

of these links was significantly supported in Experiment II. The basic idea is that a medium produces more confidently held beliefs when it is congruent with those beliefs. The confidence in these beliefs produces higher attitude confidence which increases A-B consistency.

Attribute type importance was proposed to moderate the direct link of media produced belief confidence and attitude confidence. In other words, if unimportant attribute beliefs are confidently held and important attribute beliefs are not confidently held, then attitude confidence will be low. Conversely if important attribute beliefs are confidently held and unimportant attribute beliefs are not confidently held, then attitude confidence will be high. Media type influences this belief confidence so that the whole relation is actually an interaction of media type and attribute type importance in their effect on attitude confidence. This interaction was significantly supported for one product in Experiment II.

Because attitude confidence has been linked to attitude-behavior consistency (Sample and Warland, 1973; Fazio and Zanna, 1978a,b; Smith and Swinyard, 1983), the media congruence of important attributes was proposed to moderate attitude-behavior consistency. This prediction is exactly the same as the previous one, except that A-B consistency is the dependent variable instead of attitude confidence. This prediction was marginally supported for

one of the products with a small sample size ($n= 39$, $df= 28$) in Experiment II.

Media Effects on Accessibility

The accessibility branch of the model connects medium, search and experience belief accessibility, attitude formation and A-B consistency but in a different manner than in the confidence branch. All of these links were described in Experiment II. The connection of medium with belief accessibility is unique to this research and was predicted by Propositions 1 and 2. The idea that belief accessibility is significantly affected by the medium of communication was supported for experience attributes in Experiment I, for search attributes in Experiment II and for both attribute types in Experiment III (see Tables 25 and 26 in Chapter 5).

It should be noted that belief accessibility's link to attitude is moderated by judged importance-diagnosticsity in the conceptual schema. This is based on Feldman and Lynch's (1988) theory wherein attitude (or behavior) decision inputs are used according to their relative diagnosticsity and accessibility. A large component of "diagnosticsity" is judged importance.

Fazio's (1986) model attempted to show how attitudes guide behavior. A key relationship in this model is the influence of attitude accessibility on A-B consistency. As shown in Fazio et al. (1982), the amount of direct experience can be one method of increasing this attitude

accessibility. Fazio and Zanna (1981) and Fazio et al. (1982) made this explicit link of medium (direct experience) with attitude accessibility and A-B consistency. This comprises the link of medium, attitude accessibility and attitude-behavior consistency which is a large part of the accessibility branch in the model in Figure 2. In a marketing context, Berger and Mitchell (1989) and Experiments I, II and III showed no significant difference between AD and DPE concerning attitude accessibility. (This may be due to the inherent variability of attitude response time measures). It should be noted that Experiment II did find that attitude accessibility moderates A-B consistency.

Accessibility vs. Confidence

The accessibility of beliefs had no significant link to attitude accessibility in Experiments II and III. In Experiment I, the Pearson correlation was only $-.20$. The accessibility of component beliefs has no theoretical link to the time it takes to access the attitude which has already been formed. Fazio's (1986) model makes no link between belief accessibility and attitude accessibility. Fazio regards attitude accessibility as essentially accessing affect and not beliefs. Fazio et al. (1982) found that it is possible to change attitude accessibility with repeated attitude expression and no manipulation of the underlying belief structure.

The contrast of how confidence and accessibility ultimately operate in moderating A-B consistency helps show that the two are different constructs. The main difference in their operation is that belief accessibility is proposed to have little or no effect on attitude accessibility, while belief confidence affects attitude confidence. Attitude confidence and accessibility were not significantly related in any of the three experiments. The demonstration of the separate significant influences of attitude accessibility and attitude confidence on A-B consistency in Experiment II is consistent with the proposed framework and Raden's (1985) multidimensional view of attitude strength. This would argue against Fazio and colleagues' (Fazio, 1986; Fazio et al., 1989) emphasis on attitude accessibility to the exclusion of other attitude strength variables in explaining A-B consistency.

As in Berger and Mitchell's (1989) work, media type (one exposure) had a significant effect on attitude confidence but not on attitude accessibility in all three experiments. Extreme variability in measuring accessibility data could have reduced its effects. The reliability, ease of measurement and robust character of attitude confidence make it a promising attitude strength indicator in future theoretical and empirical work.

The Attribute Importance Branch

The remaining branch in the model connects medium of exposure, judged importance of search and experience

attributes (a large part of diagnosticity), attitude formation and behavior. Much of the difference between AD and DPE lies in the attention they direct to different attributes (i.e., AD draws attention to search attribute and DPE draws attention to experience attributes). MacKenzie's (1986) link of attention to perceived importance is one important basis for the link between medium and attribute type importance. Experiment I showed that media type significantly influenced search attribute importance and Experiment III showed that it affected both search and experience attribute importance. These results provide important evidence that media type alone can affect the way consumers view a product.

The links between importance, attitude and behavior are completed using Feldman and Lynch's (1988) theory wherein attitude decision and behavior decision inputs are used according to their relative diagnosticity and accessibility. A large component of "diagnosticity" is judged importance. These links were not tested in the experiments.

The Influence of Involvement in the Framework

In Chapter 5, Petty and Cacioppo's (1979b) and Baker and Lutz' (1988) work were used to link involvement with the amount of information processing of a medium's exposure. In the framework, message processing involvement moderates medium exposure influence on the cognitive, affective and conative consequence variables.

This is why involvement is not directly connected to such variables as attribute type belief confidence, importance and accessibility.

Experiment III proposed that under low involvement, the consumer attends more to what the medium highlights while the highly involved consumer selectively attends to the information s/he thinks is important even if the media does not focus on it (complete experience attribute information is not available for experience attributes during AD exposure). Involvement thus moderates the effects of medium on beliefs, attitudes and behavior which were described above. These far reaching effects of involvement and media type on the various links in the model were tested in Experiment III.

In Experiment III, the level of message processing involvement moderated media congruence predictions for the number and weighting of important attributes but not for the belief strength variables, confidence and accessibility. An explanation for this is that subjects in the high involvement condition were more conscientious in looking for and choosing the important attributes that were needed to make a good product choice. This conscientious processing could have changed the identity of those attributes. Subjects in both the low and high involvement conditions might have sufficiently attended to identical product attributes so that involvement had no effect for the belief strength variables.

Other Dependent Variables

Though not a part of the proposed framework, belief accuracy and attitude extremity were examined in the three studies. Though a cognitive variable, belief accuracy is considered a dimension of belief identity and not belief strength. A person can strongly believe a candy bar costs \$1.00 or weakly hold this belief, but this does not change the accuracy of this belief. Similarly, attitude extremity or polarity is a dimension of attitude identity and not attitude strength. An extremely positive attitude toward a car can be held with great confidence or moderate confidence. This was discussed in Chapters 2 and 3.

Experiments I, II and III were very consistent in showing that AD is superior to DPE in producing accurate search attribute beliefs (by definition, accuracy cannot be judged for experience beliefs).

Smith and Swinyard (1983) predicted that DPE produces more extreme attitudes. Smith and Swinyard (1983) found a difference between AD and DPE on two attitude measures and labelled this as a difference in extremity. There is a problem with this in that very extreme negative valuations could have negated very extreme positive valuations in the AD condition. In the three experiments in this work, the absolute value of the attitude measures was used as the measure of attitude extremity. Contrary to Experiment II, Experiments I and III showed that media type had no significant effect on attitude extremity, thus

constituting evidence against Smith and Swinyard's (1983) hypothesis that DPE consistently produces increased intensity of valence.

Conclusion

The centerpiece of the three experiments in this work is the search-experience typology of product attributes and how AD and DPE are better at presenting different types of attributes. In all three studies, the search-experience (SE) contrast had very acceptable reliability as a method of categorizing product attribute beliefs. As a review, in Experiment III, there was an 86.6% judges agreement rate for the four categories of important attributes, search, experience, credence and "other" (SECO). When used to categorize attributes in the questionnaire in Experiments I, II and III there were 100% (for SEO), 92.9% (for SE) and 94.1% (for SECO) agreement rates respectively. As discussed in Chapter 5, the search-experience contrast had a fairly robust and significant character in indicating differences between AD and DPE exposure. The search, experience and credence (SEC) framework seems to have promise as a reliable and valuable coding scheme for product attributes based on this work and that of Ford et al. (1988). Its value in predicting the strengths of different media was shown in all three experiments.

Generally speaking, the theoretical development in this work organizes the effects of AD and DPE on belief

confidence, belief importance and belief accessibility which in turn influence attitude and/or attitude strength and A-B consistency. The conceptual framework in Figure 2 links the development of specific hypotheses in the three experiments. The significant empirical results from this framework have practical application for the marketing practitioner.

Applications

Using a Medium's Strengths

Theory and empirical results from the dissertation can guide the marketer in choosing between advertising and consumer promotions like sampling, premiums, couponing and refunds. In reality, advertising can complement consumer promotion efforts (DPE) and vice versa. The choice for the marketer is often how much advertising and DPE to provide and not whether to provide one or the other. In this section, specific marketing applications are described that assume a dominance of one medium over the other.

It seems obvious that the most important attribute(s) of a product should determine the sampling and/or advertising strategy. Given the strong results in Experiment III, the consumer's judgment of attribute importance does not have to be stable. The first set of managerial applications which follows assumes that the marketer is making no effort to manipulate a consumer's

attribute importance weights. The second set of applications assumes that the marketer is deliberately trying to manipulate the consumer's view of the product class and attribute importance weights.

For a product rich in important search attributes, sampling can be less efficient than advertising. This is based on Proposition 2 which was strongly supported in the experiments. Theoretically speaking, if advertising is more effective than DPE in presenting those search attributes, then advertising should be used, *ceteris paribus*. For example, it is more efficient for the marketer to advertise the many special settings or "buttons" on a microwave oven (search attributes) than to coax shoppers into the store with costly premiums or sale markdowns and then individually demonstrate the settings to the shoppers. Advertising sufficiently describes those product attributes. In addition, unlike DPE, advertising can do this in a stylized or manipulated manner (e.g., cartoon, drama, humor).

Using Proposition 1, sampling would be recommended when the important attributes to be communicated are of the experience type. For a product rich in experience attributes, sampling can be advantageous despite the costs. These costs do not have to be high, because the consumer does not have to take ownership of the product. One can experience the product through borrowing, rental, discounted purchase and even a well outfitted point-of-

purchase (P.O.P.) display. A free trial visit at a vacation condominium is an example of a product whose most important attributes are seen clearly only after direct experience. The cost of such a visit might be relatively low if the unit is not in use and if the cost is compared to the potential purchase price. The "hit" rate for free visits vs. advertising might justify the additional cost of free visits.

Comparative Sampling and Comparative Advertising

Side by side comparisons with a competitor should be conducted in a medium compatible with the sponsor's strengths. For example, comparison of a "top-of-the-line" brand of ice cream and a bargain brand using sampling could be disastrous for the bargain brand, because the bargain brand uses inferior (but cheaper) ingredients. Sampling would show exactly how inferior the bargain brand performs without necessarily greatly altering attribute importance weights. Advertising's advantage in describing cost and perhaps calorie advantages (i.e., search attributes) of the brands would justify comparative advertising sponsored by the bargain brand.

"The Pepsi Challenge" is a recent example of comparative sampling at one location. Pepsi felt so confident that its cola tasted better than Coca-Cola that it sponsored free blind taste tastes of the two drinks. This example of comparative sampling was expensive in time, effort and resources needed. It should be noted

that considerable advertising accompanied this effort. There is no reason why marketers cannot use other less expensive means to provide comparative sampling. Examples would include refunds or cents-off for simultaneous purchase of the sponsor's and competitor's brands. Much of the convenience provided in shopping centers and malls is actually due to a kind of comparative sampling. Shoppers can try on different outfits, compare makes and models, and actually receive free samples (e.g., perfume, make-up) all within a relatively small geographical area. Trade shows and other product class exhibits are more obvious examples of providing comparative sampling.

Manipulation of How a Consumer Views a Product Class

Based on Experiment III, attribute importance weights can be significantly manipulated with the use of different media. It should be noted that even if the alteration of importance weights is temporary (a matter for empirical study), P.O.P. AD or P.O.P. DPE could successfully take advantage of the short-lived phenomenon. The difference between the following strategy suggestions and those described above are that in the above prescriptions, the marketer assumes that those weights are stable and s/he works within that constraint. The following prescriptions alter that constraint in that the marketer specifically attempts to use media strengths to alter the way the consumer views the product class.

When unique selling points are present, it is important that the marketer introduce the product using the medium which is most compatible with the marketer's desired selling points. The first recommendation would be that if one's product is superior regarding search attributes, advertising (not DPE) could emphasize the importance of these attributes. In Experiment III, the natural advantage of advertising in communicating search attributes led to a significant increase in the overall weight of all search attributes combined. Focusing attention on a product's unique search attributes in advertising could give a product an advantage over sheer trial experience alone, because of DPE's disadvantage in showcasing those search attributes.

An example of this would be the unusual advantage that a "health food" candy bar might have over its competitors. Most consumers don't compare candy bars on such search attributes as calorie content and healthful ingredients (e.g., unsaturated fats). Trial experience alone might not sufficiently emphasize a particular brand's advantage on healthful ingredients and low calorie content. In fact, the taste of the normal "junk food" bar during the sampling occasion might overwhelm the advantages of the health food candy bar. In such a case, advertising the health food bar would be more efficient than sampling or another type of promotional DPE campaign.

Theoretically, advertising, especially comparative advertising, could be more efficient for other products such as a VCR brand with an extraordinary number of search attribute features, a cigarette brand with the lowest tar and nicotine content and an auto with the lowest insurance rates. Consumers might not consider these attributes important without their emphasis in an advertising campaign. In the case of baking soda, consumers might be entirely ignorant of its deodorizing properties in the absence of advertising.

A similar advantage is predicted for experience attribute DPE. An example would be marketing a small, lesser known school in the South to high school students. Such a "brand's" performance on experience attributes like atmosphere, individual attention, convenient movement to classes, small queues, less red tape and mild weather could make up for its poor performance on such prominent search attributes as cost, academic ranking and resources. Sponsored college visits (DPE) would help increase the salience and perceived importance of many experience attributes as well as educate the potential consumers as to the level of those attributes at the particular school.

Giving A Parity Product a Unique Advantage

For brands that are more or less equivalent across attributes, a seemingly unique selling point can be communicated by simply emphasizing an attribute or attributes. This is most efficiently done using the

medium most compatible with the marketer's desired selling points. A cereal advertising vitamin and nutrient enrichment is advertising an attribute common to its competitors. A light beer that advertises its calorie content does not have to say that this number is comparable to four other brands and is actually higher than three other brands. A cold remedy which gives the impression that time release crystals are somehow special to that brand is banking on the fact that the consumer does not think about the other brands have such crystals and even the same ingredients. Advertising can be manipulated to accentuate a product's strengths (or qualities its competitors aren't advertising) while DPE is more difficult to manipulate because one must often alter the product or packaging itself.

Despite the fact that a particular set of brands is similar, a sampling opportunity at the right time can make a product seem uniquely better. For example, the common point-of-purchase sampling of sausages when the consumer is hungry during late afternoon shopping can give the product a special advantage on the experience attribute, taste. Similarly, a computer manufacturer who is somehow able to get a consumer to use his/her wares early in the learning or buying stages (e.g., students in school labs), can gain an advantage concerning the experience attribute, "easy to use." The consumer who knows little else is more likely to prefer the familiar brand of computer. A free

taste of ice cream communicates experience attributes that the consumer might abstractly know are present but does not concretely realize would be extremely satisfying at that particular moment in time.

Summary of Applications

It is a valuable exercise for the marketer to discover the percentage of search and experience attributes that consumers think are important in a product. This can be done through through focus groups, surveys or other types of market research. This information can determine if one medium of communication would have an advantage over another.

The marketer cannot expect success in influencing consumers' product decisions if the the medium used automatically deemphasizes the desired selling points and emphasizes less desirable product attributes. Sampling and other modes of direct product experience are not always superior to advertising. DPE is superior to advertising when a brand's important attributes are of the experience type, but advertising is superior to DPE in communicating search attributes.

The communication of product attributes is important to the marketer because it influences consumer decision making, attitudes and ultimately consumer behavior. The marketer must examine the product information s/he wants to communicate in light of the strengths of the available media.

Limitations

The limitations of the three experiments in the dissertation can be approached using Cook and Campbell's (1979) four types of validity. Cook and Campbell classify validity questions into four groups: construct, statistical conclusion, internal and external. The term "validity" is an approximate and sometimes relative term in the social sciences and consumer research. It relates to the truth of a study or some aspect thereof. Use of the term "validity" in this chapter will be understood to mean relative or approximate validity.

Validity of AD and DPE Representation

Cook and Campbell (1979) regard construct validity as the validity of generalizations concerning measured traits and manipulated variables (p. 38). In all three of the experiments, media type is a manipulated variable. Mitchell and Olson (1981) criticized a typical laboratory operationalization of advertisements that appeared in their own study. It can be applied to the experiments reported here as well:

the advertisements were not embedded in editorial material, exposure was forced and timed and occurred within a short time period....(measurements) were taken almost immediately after exposure...(p. 330).

Marks and Kamins (1988) work (see Chapter 2) used a method similar to Experiments I, II and III in examining AD vs. DPE. In discussing the limitations of their study, they stated that the subjects had

only a single exposure to the advertisement and to the product sample. First, in a natural environment the consumer is likely to be exposed to repetitive advertising. Hence one might argue that (our) results are an artifact of the experimental situation and that the findings overstate the relative importance of product sampling. However, one reason for repetitive advertising is that an advertisement must compete with many distracting stimuli in gaining a consumer's attention. In the experimental situation there were few distracting stimuli and the ad was the focus of the subjects' full attention. (p. 278)

All these criticisms show how bringing ad stimuli into the lab in order to control extraneous factors can cause a phenomenon (i.e., AD) to differ from its natural occurrence in the real world.

By definition, total equality of AD and DPE is not possible regarding the communication of experience attributes. Here, extensive pretesting was used in an attempt to equate AD and DPE as much as possible. This issue was treated in the descriptions of the pretesting. Normally, advertisers would not create print ads to expressly imitate DPE. Instead, advertisers would select certain selling points and emphasize their positive aspects. Unfortunately, this would confound the studies' theoretical test of differences between AD and DPE, a major criticism of past works that have used manufacturer's ads (e.g., Smith and Swinyard, 1983).

One issue in conducting persuasion experiments is keeping the level of involvement at a constant level among the treatments. Tyebjee (1979) makes the distinction between cognitive and sensory involvement in a task.

Biting into a new type of candy bar, pedaling a stationary bicycle, etc. obviously have more sensory involvement than viewing print ads for the products. This and other inherent differences between DPE and AD are recognized from the beginning and are the object of study. It is similar to studying the difference between men and women on some kind of measure, where exact matching of the two groups on all characteristics except sex is impossible.

Construct Validity of "Important Attributes"

In a study by Jaccard, Brinberg and Ackerman (1986), the authors found little convergence among six methods of assessing the important attributes of a product. One explanation given was that each of the six measures tapped a different kind of importance. The different elicitations of important attributes used in choosing between brands in a product class were very similar in the present experiments (see the method sections in Chapters 3, 4 and 5), so it is likely that these measures tapped only one type of attribute importance. Another discouraging aspect of this measure is that the elicitation of important attributes may not be valid for discovering the attributes used in the actual evaluation of a brand (Gardner, 1983).

Another problem with important attribute elicitation is that the subjects might be affected by the manipulations for a short period of time. The observed effects on the dependent variables could be a short-lived

phenomena that disintegrate with time. Even if all effects of a television, print or radio ads normally disintegrate before a person reaches a store, the short-lived effects could have a significant influence if used in point-of-purchase displays, catalog, home shopping and other non-store buying situations.

Measurement of "Behavior"

In Smith and Swinyard's (1983) empirical work comparing AD and DPE, their measure of behavior was the purchase of as many \$.20 snack food packages as the subjects wanted. Similarly Berger and Mitchell (1989) used choice of various snacks off of a tray, and most of the cited works by Fazio and colleagues have used the amount of time subjects played with the puzzle stimuli. Smith and Swinyard (1983) pointed out that small commitment behaviors might overstate the actual target behavior (e.g., purchase). It is possible that the choice of receiving \$40 or the chair-bed and the choice of receiving \$40 or the stationary bicycle might have had less of that problem. It should be noted that the behavior measurement in Experiment II was the hypothetical choice, "If you were given the choice of receiving ..., which would you choose?" which reduced the commitment even more.

Self-Report Data

Many of the measures in the studies produced self-report data (e.g., "As you sampled the candy bar,

what were the thoughts that went through your mind?"). (Exceptions to this were the unobtrusive response time (accessibility) measures.) Any self-reports concerning mental processes can be questioned (Wright, 1980). The typical arguments that subjects do not always know what is inside their heads and do not know how to express it apply here. According to Wright (1980, p. 166),

Variations in people's verbalized thoughts often correlate significantly with their postmessage attitude statements... Establishing whether verbalized thoughts reflect the message-evoked thinking that causally mediates message or treatment effects on attitudes is difficult, but the available evidence seems to warrant cautious optimism...the fact that the verbalized thoughts have behaved in orderly fashion in tests to date increases confidence in the validity of the measures."

Written (and oral) responses nullify some of the episodic, imagery cognitions from DPE and thus make it harder to find differences between AD and DPE in their effects. A one-to-one mapping of the construct "cognitions" with the written "cognitive responses" operationalization is admittedly troublesome for trait validity. These and the other concerns about cognitive responses also apply to the construct validity of the free elicitation of important attributes.

With the pros and cons concerning verbalized cognitive responses and other self-reports thus noted, their threat to construct validity is perhaps outweighed by their positive performance in the past and the

unavailability of viable alternatives given the available resources and research methods.

Statistical Conclusion Validity

In each experiment, statistical conclusion validity was affected, because the "sample" of DPE (and AD) instances was so small ($n= 1$ or 2). One cannot know for sure whether DPE and AD caused the extreme differences or whether the results were idiosyncratic to the products or advertisements used. This particular problem could also be classified as a mono-operation bias threat to construct validity. When one views the three studies together, this criticism is less of a problem because there were three separate experiments using four different products and a wide range of cognitive dependent variables. Across experiments, products and a wide range of cognitive variables, the two important propositions were supported.

Internal Validity: Testing

"Testing" is an internal validity problem wherein familiarity with the test questions improves performance.

Subjects in Experiments I and II were exposed to similar questions for the two separate products. Thus, answers from the second ordinal position were vulnerable to this effect. It is hoped that the counterbalancing and the inclusion of this effect in the statistical models successfully removed any distortion from this phenomenon. When this effect was statistically significant, data from

the second ordinal position were removed from the analysis.

It is possible that the battery of questions in all three experiments abnormally created or increased certain product cognitions and attitudes. The sensitization and rehearsal of these dependent variables could decrease the internal validity of the cognitive, affective and conative responses in the later questions during the session. This phenomenon has been labelled "self-generated" validity and is treated in depth by Feldman and Lynch (1988). In the three experiments, this problem was equally present across all the exposure conditions and thus it might not have caused any of the differences between the treatment groups.

In any experimental situation, it is likely that subjects feel that the experimenter would like for them to act rationally and conscientiously. Such a demand effect is another internal validity problem and is in direct contrast to how consumers perform in typical product exposure and evaluation situations. It is hoped that the (more or less) anonymous numbering of questionnaires, the test-market cover stories and (more) realistic stimuli created a more naturalistic environment. In addition, subjects knew they would get the desired course extra credit whether they were "rational" or not during the experiment. This last factor may be one explanation for the fact that there were negligible differences between

some of the low and high involvement conditions in Experiment III.

It is possible that the kind of information processing concerning a candy bar differs from that of a more durable and expensive product like an appliance (Edell and Staelin, 1983). The use of very different products (i.e., a candy bar, pencil, stationary bicycle and chair-bed) in the three experiments helped address this issue.

Despite subjects' experience with similar products, it is likely that most if not all of the subjects would not have purchased the bike and chair-bed used in Experiment III, because of their availability in some form through the university. This made the experimental manipulation of media type on the presentation of product attributes stronger, because subjects did not have as many preconceived knowledge structures which are resistant to manipulation by the media type. This, in turn, could make any "media congruence" hypotheses more significant under low and high involvement, but would also make the high involvement cells resemble their low involvement counterparts, because subjects would not be able to refer to preconceived knowledge structures in choosing which attributes to attend to and which to ignore. When the hypotheses predicted different patterns of results for the low and high involvement cells, the use of the bike and chair-bed made it more difficult to attain significantly

different results between the low and high involvement cells.

In Experiments I and II, the candy bar and pencil belonged to extremely familiar product classes. Subjects were likely to have made multiple purchases within the product classes. In the two experiments, existing knowledge structures could be consulted and used in attending to some attributes at the expense of others. This meant that media promotion of some attributes over others would have less influence on the key response variables. The products used in Experiments I and II thus made it more difficult to attain the significant media effects. This makes the statistically significant media effects in those experiments more noteworthy.

External Validity

Generalizing to a population is justified only if formal random sampling for representativeness is done (Cook and Campbell, 1979). In consumer research, such true probalistic sampling and generalizing is impossible because some behaviors necessarily happen in the future (Lynch, 1982). This notably includes purchase of the product type. Subjects in this study were self-selected college student volunteers; thus, there was no random sampling. These subjects were randomly assigned to treatments, however. It is possible that this group of self-selected college undergraduates is not the "impressionistic modal instance" of the general

populations to which a marketer and/or researcher would wish to generalize (Cook and Campbell, 1979).

It is probable that students who are generally more willing and conscientious than the norm would volunteer for the study, and their results might be overly responsive or extreme across all the treatments. The students' self-selection might make them unrepresentative of college students in general and even students at their particular school.

In the three experiments, there was also no possibility of sampling for heterogeneity to show how a wide range of subjects would respond to the treatments. However, the homogeneity of the college student subject pool reduced random variation due to age and developmental considerations. This increased statistical conclusion validity.

It is obvious that the purpose of the experiments was testing theory and not generalizing to any population or situations. It is also true that we do not know to which group to generalize (e.g., Do we generalize to Americans over 12 years old or to all nationalities of all ages?). According to Cook and Campbell (1979), replication in small studies with similar "haphazard", non-representative samples is more valid than one large study that has representative random sampling. This describes the set of studies presented here. Ideally, replication in a number of studies using different types of subjects would be the

best justification for applying the theory to a wide range of populations, times and situations.

CHAPTER 7

RETROSPECTIVE AND CONCLUSION

Introduction

Academic research attention has traditionally focused on television, radio and print media in marketing communications. Less research has been aimed at understanding consumer response to the "medium" of DPE. When AD and DPE in the form of sampling have been compared or contrasted in academic research, the perspective has been that DPE is generally superior to advertising (e.g., Smith and Swinyard, 1982, 1983, 1988). The preceding chapters examined the strengths and weaknesses of these two media and conditions when each is superior in communicating certain types of information. The main focus of the hypotheses was the strength of beliefs and attitudes derived from AD vs. DPE with a special focus on the strength dimensions of confidence and accessibility.

Conditions and processes were described and empirically tested which demonstrated that advertising can actually be superior to DPE in communicating information. Nelson's (1970, 1974) search vs. experience contrast in economics was used in categorizing the product attributes

best communicated by advertising and DPE. The following propositions were developed and tested:

PROPOSITION 1: DPE is superior to AD in presenting experience attribute information.

PROPOSITION 2: AD is superior to DPE in presenting search attribute information.

Using these propositions, the concept of media congruence was introduced. The idea is that an attribute is congruent with a medium (i.e., AD or DPE) if the attribute is of the type that is best presented by that particular medium. Experience attributes are congruent with DPE and search attributes are congruent with AD.

A conceptual framework was proposed in Chapter 6 that modeled the flow of influence from medium to belief variables to attitudes to behavior. The links in the framework were tested in specific hypotheses and/or connected to previously published work. The main cognitive dimensions of interest were belief confidence, belief accessibility and attribute importance. Message processing involvement was proposed to moderate the influence of those links. The model incorporated Smith and Swinyard's (1982) Integrated Information Response Model, Feldman and Lynch's (1988) decision theory and Fazio's (1986) model of the attitude-behavior process. The conceptual framework deepened Fazio's (1986) description of how attitudes guide behavior by considering the impact of attribute type importance and message processing involvement on decision making. The model also

separated the influences of attitude confidence and attitude accessibility in moderating A-B consistency.

Experiments I and II

Experiment I tested the above two propositions and other hypotheses from the literature using a candy bar being test-marketed in another region. Experiment II used the candy bar and a staged leads pencil in testing the propositions and new hypotheses. Subjects were exposed to AD or DPE for each product used in the experiments. By using extensive pre-testing, the information communicated by the two media was equated as much as possible in all the experiments.

When the response variables were divided into search and experience categories (e.g., search attributes' belief confidence and experience attributes' belief confidence), there was a significant trend supporting the two propositions in Experiment I. Experiment II provided even stronger support in this regard.

In Experiment II, it was predicted and demonstrated that media congruence of a product's diagnostic (relevant and important) attributes can lead to increased attitude confidence and attitude-behavior consistency. The separate significant or marginally significant influences of medium, attitude confidence, accessibility and extremity as moderators of A-B consistency were empirically demonstrated in Experiment II. Contrary to Fazio (1986) and Fazio et al. (1989), attitude

accessibility did not appear to be the driving force behind attitude strength and A-B consistency.

A unique and very important empirical result in Experiment II was that A-B consistency was higher for AD than DPE for the candy bar ($p < .08$). This could be explained by the fact that the importance weight of search attributes was greater than that of experience attributes for that product.

Another interesting result in Experiment II was that more than half of the elicited attribute beliefs for both products were more accessible after AD than DPE and exactly half were more confidently held after AD.

Experiment III: Diagnosticity and Involvement Issues

A main focus of Experiment III was how media (i.e., AD and DPE) can influence the perceived diagnosticity of attribute beliefs. Experiment III built on Experiments I and II by using the search vs. experience distinction to help explain media effects under different levels of involvement. Low involvement message processing occasions were used in Experiments I and II. In Experiment III, attribute beliefs were examined under both high and low message processing involvement. Adding involvement as a factor in Experiment III addressed the question of whether significant media effect findings from Experiments I and II operate only under low involvement.

The involvement mechanism proposed was that higher levels of message processing involvement lessen the unique

effects predicted in Propositions 1 and 2. The idea is that with the conscientious processing that characterizes high message processing involvement, the consumer is motivated to search for the attribute information s/he originally thought was important and is less likely to allow DPE or AD to manipulate information processing including attention. Conversely, with low message processing involvement, the individual is not trying to process the nuances of the product exposure, so the focus of the medium's exposure has disproportionate influence on information processing. In summary, higher levels of involvement decrease the unique effects of each medium in its focus on one attribute type or the other. Most of the predictions in Experiment III relied on this rationale.

Experiment III Method and Results

Experiment III manipulated involvement (high or low), medium (AD or DPE) and product order for a stationary bicycle and fold-out chair-bed. The use of these consumer durables tested the two propositions for an additional type of product. The important dependent variables included belief and attitude confidence and accessibility, belief accuracy, attitude level and behavior (choice between receiving money or the product in a prize drawing). The important product attributes that the subjects would use in choosing between each product and its competitors were elicited. These were then weighted

by the subjects according to their importance in the brand choice decision.

Experiment III provided even stronger support for the basic interaction of media type and attribute type in their effect on belief variables. The media congruence predictions from Propositions 1 and 2 were supported by all of the belief dimensions measured. Message processing involvement significantly moderated this interaction for the number and weighting of important attributes of each attribute type. Message processing involvement did not moderate this interaction for the belief strength variables, confidence, accessibility and accuracy. From these results, it was proposed that message processing involvement has more of an effect on how beliefs are used than on their strength.

Implications

Using Proposition 1, sampling would be recommended when the important attributes to be communicated are of the experience type. Based on Proposition 2, sampling can be less efficient than advertising for a product rich in important search attributes. Experiment II empirically demonstrated how attitude-behavior consistency could be higher (at least marginally) for a product dominated by search attributes.

Using four different products, durables and non-durables, in three different research designs, the three experiments provided very strong support for the two

propositions. Diagnosticity of the attributes involved was important to attitude strength (confidence) and A-B consistency in Experiment II. In Experiment III, involvement was more important to how beliefs were used than to their strength. When compared to high involvement, under low involvement, the medium had a more significant influence on the framing of the products' important attributes used in brand choice.

Consistent with Raden (1985), attitude "strength" variables were not unidimensional in the three experiments. Specifically, attitude confidence and accessibility were not significantly related in any of the experiments. In Experiment III these two variables were not related to attitude persistence. In Experiment II, the separate significant influences of attitude confidence and accessibility in moderating A-B consistency argue against Fazio and colleagues' (Fazio, 1986; Fazio et al., 1989) emphasis on attitude accessibility in explaining A-B consistency (see Chapter 2). A closer look at the conceptual separation of attitude confidence and accessibility in the dissertation offers a theoretical advance.

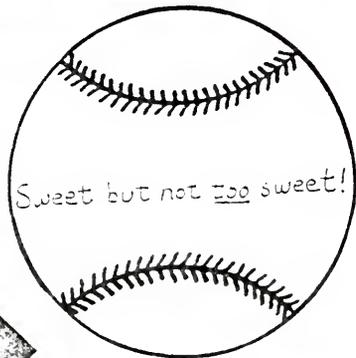
In the realm of practical application, the dissertation examined the strengths of DPE and advertising and the conditions under which each has maximum effect. The marketer must examine the information s/he wants to communicate in light of the strengths of the available

media. The marketer cannot expect success in influencing consumers' product decisions if the medium used automatically deemphasizes the desired selling points and emphasizes less desirable product attributes. The propositions and theory have practical worth for the marketer faced with the choice of advertising or using some form of consumer promotion (e.g., sampling, couponing) in influencing consumer decision making and behavior.

APPENDIX A
EXPERIMENT I ADVERTISEMENT



-NEW!
 -the sweetness of caramel
 -the crunchiness of peanuts
 -the creaminess of milk chocolate
 -the crispiness of rice
 -rich and filling but
 only 190 calories
 -40¢



INGREDIENTS: MILK CHOCOLATE (MILK CHOCOLATE CONTAINS SUGAR, COCOA BUTTER, MILK CHOCOLATE, SOYA LECITHIN, AN EMULSIFIER AND VANILIN, AN ARTIFICIAL FLAVORING), RICH FRUCTOSE CORN SYRUP, OATS, CRISP RICE, PEANUTS, MILK DAIRY BUTTER, REFINED PALM KERNEL OIL, BROWN SUGAR, FEED OF VEGETABLE OILS (CONTAINS PARTIALLY HYDROGENATED PALM KERNEL AND SOYBEAN OILS), MONO- AND DIGLYCERIDES, SALT, MOLASSES, MALT CORN SYRUP AND DISODIUM PHOSPHATE.

NUTRITION INFORMATION PER SERVING
 THIS BAR EQUALS ONE SERVING

CALORIES	190	CARBOHYDRATES	24 GRAMS	50
PROTEIN	3 GRAMS	SUGARS	10 GRAMS	20
		OTHER CARBOHYDRATES	9 GRAMS	
		PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)		
PROTEIN	4	THIAMINE	1	U.S. RDA
VITAMIN A	4	RIBOFLAVIN	1	CALCIUM
VITAMIN C	4	NIACIN	1	IRON
*CONTAINS LESS THAN 2 PERCENT OF THE U.S. RDA OF THESE NUTRIENTS				
28.35 GRAMS EQUAL 1 OZ.				

APPENDIX B
EXPERIMENT I QUESTIONNAIRE

PLEASE DO NOT TURN TO THE NEXT PAGE UNTIL TOLD TO DO SO.

As you sampled the candy bar, what were the thoughts that went through your mind? Please write down in the boxes on the following page, everything that you thought of, regardless of whether it pertained to the product itself, the package, or anything else that went through your mind.

Please write one thought per box; you do not need to fill all boxes, just as many as the number of thoughts you had while sampling the product. Do not worry about spelling, grammar, or punctuation. You will have two minutes to complete this task.

Please do not turn the page and begin writing your answers until instructed to do so by the experimenter. Please look up when you have finished reading these instructions.

PLEASE DO NOT TURN TO THE NEXT PAGE UNTIL TOLD TO DO SO.

As you viewed the ad for the candy bar, what were the thoughts that went through your mind? Please write down in the boxes on the following page, everything that you thought of, regardless of whether it pertained to the product itself or anything else that went through your mind.

Please write one thought per box; you do not need to fill all boxes, just as many as the number of thoughts you had while viewing the ad. Do not worry about spelling, grammar, or punctuation. You will have two minutes to complete this task.

Please do not turn the page and begin writing your answers until instructed to do so by the experimenter. Please look up when you have finished reading these instructions.

Please list the important attributes or features of CANDY BARS IN GENERAL which you might use in deciding between this candy bar and other brands.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Please circle the ONE best response to the following questions.

I. Which of these is or are in this candy bar?

1. coconut
2. caramel
3. nougat
4. all of these
5. none of these

II. This candy bar also contains

1. crisp rice
2. wafer sections
3. pockets of cream
4. a chocolate center
5. none of the above

III. How much does this candy bar cost?

1. 30 cents
2. 35 cents
3. 40 cents
4. 45 cents
5. 50 cents

IV. What kind of nuts are in this candy bar?

1. almonds
2. peanuts
3. cashews
4. almonds and peanuts
5. all of the above

V. Which of these phrases best describes the name of the candy bar?

1. sports related
2. a main ingredient of the product
3. something which is often associated with science fiction
4. a result of eating the product
5. none of the above

VI. How many calories does this product have?

1. 130
2. 160
3. 190
4. 220
5. 250

VII. What is the net weight of the candy bar?

1. 1.5 ounces
2. 1.2 ounces
3. 1.4 ounces
4. 1.7 ounces
5. 1.9 ounces

VIII. What colors are on the package?

1. red, blue and white
2. blue and brown
3. red, yellow and white
4. brown and white
5. yellow, blue and white

IX. Who makes this candy bar?

1. Peter Paul
2. Hershey
3. Beatrice
4. Mars
5. not shown

X. Which of these is NOT contained in this candy bar?

1. nut chunks
2. oats
3. salt
4. milk
5. coconut

XI. This candy bar has

1. 1 gram of protein
2. 2 grams of protein
3. 3 grams of protein
4. 4 grams of protein
5. 0 grams of protein

(The Betts QMI Vividness of Imagery Scale followed the product quiz and was the last instrument given during the first session. This 35 item scale was not used in the dissertation's analyses, and it can be found in Appendix A of Richardson's (1969) book Mental Imagery.)

Experiment I: Second Session Computer Questionnaire

(SCREEN)

WELCOME! WE WANT TO THANK YOU FOR PARTICIPATING IN THIS PRODUCT EVALUATION STUDY.

HERE ARE IMPORTANT INSTRUCTIONS ABOUT HOW TO USE THE KEYBOARD IN ANSWERING QUESTIONS. WHEN YOU ARE ASKED TO USE THE NUMBERS 1 THROUGH 7, PLEASE USE THE NUMBERS AT THE TOP OF THE KEYBOARD. THE LETTER "1" SHOULD NOT BE USED AS A NUMBER 1. PLEASE ANSWER ALL QUESTIONS AS QUICKLY AND ACCURATELY AS POSSIBLE. THANK YOU. HIT ANY KEY TO GET YOUR QUESTIONS.

(NEW SCREEN. THERE IS A NEW SCREEN FOR EACH QUESTION.)
Considering candy bars in general, HOW SWEET is this candy bar?

1	2	3	4	5	6	7

not at all			extremely			
SWEET			SWEET			

How CERTAIN are you about the ACCURACY of your above judgment about how SWEET this candy bar seems?

1	2	3	4	5	6	7

not at all			extremely			
certain			certain			

How desirable or undesirable is it that ANY candy bar is as SWEET as you rated this candy bar above?

1	2	3	4	5	6	7

very			very			
undesirable			desirable			

(SAME THREE TYPES OF QUESTIONS WITH THE FOLLOWING
ATTRIBUTES SUBSTITUTED IN FOR "SWEET":)

nutritious

crunchy

peanuty

filling

chocolatey

expensive

fattening

(SAME TYPE OF QUESTIONS, ONLY MODIFIED FOR THE FOLLOWING
TWO ATTRIBUTES:)

Considering candy bar wrappers in general, HOW APPEALING
is this candy bar's wrapper?

	1	2	3	4	5	6	7

not at all							extremely
APPEALING							APPEALING

How CERTAIN are you about the ACCURACY of your above
judgment about how APPEALING this candy bar's wrapper
seems?

	1	2	3	4	5	6	7

not at all							extremely
certain							certain

How desirable or undesirable is it that ANY candy bar
wrapper is as APPEALING as you rated it above?

	1	2	3	4	5	6	7

very							very
undesirable							desirable

Considering candy bars in general, HOW APPEALING is the appearance of this candy bar itself?

	1	2	3	4	5	6	7

not at all							extremely
APPEALING							APPEALING

How CERTAIN are you about the ACCURACY of your above judgment about how APPEALING the appearance of the candy bar itself seems?

	1	2	3	4	5	6	7

not at all							extremely
certain							certain

How desirable or undesirable is it that ANY candy bar looks as APPEALING as you rated this candy bar above?

	1	2	3	4	5	6	7

very							very
undesirable							desirable

(NEW SCREEN)

Instructions: Please TYPE ONLY ONE RESPONSE to the following questions. Hit any key to continue.

(NEW SCREEN)

I. Which of these is or are in this candy bar?

1. coconut
2. caramel
3. nougat
4. all of these
5. none of these

II. This candy bar also contains

1. crisp rice
2. wafer sections
3. pockets of cream
4. a chocolate center
5. none of the above

III. How much does this candy bar cost?

1. 30 cents
2. 35 cents
3. 40 cents
4. 45 cents
5. 50 cents

IV. How much television do you watch per week on the average?

1. none
2. 1-4 hours
3. 5-8 hours
4. 9-12 hours
5. 13 or more hours

V. What kind of nuts are in this candy bar?

1. almonds
2. peanuts
3. cashews
4. almonds and peanuts
5. all of the above

VI. Which of these phrases best describes the title or name of the candy bar?

1. sports related
2. a main ingredient of the product
3. something which is often associated with science fiction
4. a result of eating the product
5. none of the above

VII. How many calories does this product have?

1. 130
2. 160
3. 190
4. 220
5. 250

VIII. Which of these classifications best describes you?

1. freshman
2. sophomore
3. junior
4. other
5. senior

IX. What is the net weight of the candy bar?

1. 1.5 ounces
2. 1.2 ounces
3. 1.4 ounces
4. 1.7 ounces
5. 1.9 ounces

X. What colors are on the package?

1. red, blue and white
2. blue and brown
3. red, yellow and white
4. brown and white
5. yellow, blue and white

XI. Who makes this candy bar?

1. Peter Paul
2. Hershey
3. Beatrice
4. Mars
5. not shown

XII. How many candy bars do you eat during a typical month?

1. none
2. 1-4
3. 5-8
4. 9-12
5. 13 or more

XIII. Which of these is NOT contained in this candy bar?

1. nut chunks
2. oats
3. salt
4. milk
5. coconut

XIV. What does this candy bar look like on the inside?
(THIS QUESTION WAS NOT COUNTED.)

1. peanuts with caramel
2. peanuts in coconut
3. toffee and chocolate
4. raisins, caramel and chocolate
5. none of the above

XV. This candy bar has

1. 1 gram of protein
2. 2 grams of protein
3. 3 grams of protein
4. 4 grams of protein
5. 0 grams of protein

Using the numbers 1 through 7, please rate how you feel about this candy bar: (NEW SCREEN WITH THE QUESTION FOR EACH OF THE FIVE SCALES.)

1	2	3	4	5	6	7

unfavorable						favorable
good						bad
harmful						beneficial
like						dislike
unappealing						appealing

The above ratings concerned your feelings about the candy bar. How certain are you that the ratings you gave were accurate?

1	2	3	4	5	6	7

not at all certain				extremely certain		

What are your feelings about purchasing this candy bar when it is available locally?
(SAME 5 SCALES AS FOR THE "HOW DO YOU FEEL ABOUT THE CANDY BAR?" QUESTION.)

The above ratings concerned your feelings about purchasing this candy bar. How certain are you that the ratings you gave were accurate?

1	2	3	4	5	6	7

not at all certain				extremely certain		

How would you describe your chances of buying this product when it becomes available? (NEW SCREEN WITH THE QUESTION FOR EACH OF THE THREE SCALES.)

1	2	3	4	5	6	7

likely improbable possible				unlikely probable impossible		

How certain are you in the above ratings of your chances of buying this product when it becomes available?

1	2	3	4	5	6	7

not at all certain				extremely certain		

Please use the scales below to describe your feelings about candy bars in general. (NEW SCREEN WITH THE QUESTION FOR EACH OF THE SIX SCALES.)

1 2 3 4 5 6 7

important	unimportant
means a lot to me	means nothing to me
exciting	unexciting
trivial	fundamental
not needed	needed
interesting	not interesting

(THE FOLLOWING WAS NOT USED IN THE ANALYSIS. FOR THE SECOND GROUP OF SUBJECTS:)

Which would you prefer to have at this time?

1. \$2.00 in cash
2. 5 candy bars (retail value of \$2.00)

(THE FOLLOWING WAS NOT USED IN THE ANALYSIS. FOR THE SECOND GROUP OF SUBJECTS:)

Which would you prefer to have at this time?

1. \$.50 in cash
2. 2 candy bars (retail value of \$.80)

NEW SCREEN

This concludes this portion of the experiment. Please tell the experimenter what you have decided.

(THE TWO WRITTEN QUESTIONS FOLLOWED THIS FOR THE FIRST GROUP OF SUBJECTS.)

Did you basically understand all the questions that were asked in this study? If not, please explain.

What do YOU think the purpose of this study was?

APPENDIX C

EXPERIMENT I CODING PROCEDURE

Is the thought most directed toward...

1. the advertisement: IF YES, WRITE "1" AND GO TO
IF AD

OR

2. the candy bar product (e.g., ingredients,
calories, taste): IF YES, WRITE "2" AND GO TO **IF
PRODUCT**

OR

3. the candy bar's package: IF YES, WRITE "300" AND
GO TO ***EVALUATION-CURIOSITY***

OR

4. the brand name- "Grand-Slam": IF YES, WRITE "400"
AND GO TO ***EVALUATION-CURIOSITY***

OR

5. other (e.g., price, person feeling hungry, target
market, non-product images): IF YES, WRITE "500" AND GO TO
EVALUATION-CURIOSITY (LATER, THE "PRICE" RESPONSES
WERE GIVEN THE NUMBER "502".)

IF AD

Is the thought most directed toward

1. the ad as a whole (e.g., "This is a superb ad."):
IF YES, WRITE "10" AND GO TO ***EVALUATION- CURIOSITY***

OR

2. a specific characteristic, feature or part of the
ad (e.g. "The baseball in the ad looked odd"): IF YES,
WRITE "20" AND GO TO ***EVALUATION-CURIOSITY***

IF PRODUCT

Is the thought most directed toward

1. the product as a whole or the overall product
(e.g., "I really like this candy bar."): IF YES, WRITE
"30" AND GO TO ***EVALUATION-CURIOSITY***

OR

2. a feature or attribute of the product...

1. an experience attribute: an aspect of a product which can only be truly discovered and known after using the product (e.g., taste): IF YES, WRITE "41" AND GO TO ***EVALUATION-CURIOSITY***

2. a search attribute: an aspect of a product which can be truly discovered and known without using the product. This is second hand information (e.g., calorie content): IF YES, WRITE "42" AND GO TO ***EVALUATION-CURIOSITY***

EVALUATION-CURIOSITY

The thought is best characterized as

1. negative- making a judgment and giving a negative value to the target (e.g., tastes awful): IF YES, WRITE "1" AND GO TO ****RELATIONAL****

2. positive- making a judgment, and giving a positive value to the target (e.g., tastes great): IF YES, WRITE "2" AND GO TO ****RELATIONAL****

3. neutral- making a declarative statement but not making a judgment, or giving a positive or negative value to the target (e.g., tastes like caramel): IF YES, WRITE "3" AND GO TO ****RELATIONAL****

4. curiosity- "expressing interest in additional information about the product... If the intent was to honestly inquire about more information, it is a curiosity statement" (Wright, 1973) A good clue is if it ends with a "?" (e.g., What does it taste like?): IF YES, WRITE "4" AND GO TO ****RELATIONAL****.

****RELATIONAL****

Does the following definition ALSO describe the thought?

RELATIONAL (Hansen, 1972): such a thought would "imply that one concept has an influence on, or is related to" another concept. Basically this type of thought PROPOSES SOME KIND OF CONNECTION OR RELATIONSHIP between the target (or an aspect of it) and another object, concept or activity (e.g., tastes like a Snicker's).

1. IF NO, WRITE "1"
2. IF YES, WRITE "2"

EXAMPLES:

"Mosts ads aren't this colorful."

12032

"The candy bar tastes like a Snicker's."

24132

"Is this a real candy bar?"

23041

"I like the red, white and blue package."

30021

"There are too many candy bars with baseball titles."

40012

"I'm getting sick of climbing stairs to get to these experiments."

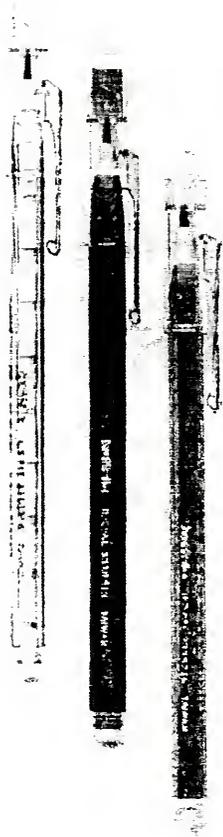
50011

APPENDIX D

EXPERIMENT II ADVERTISEMENTS

BUFFALO[®]

Staged Leads Pencil With Eraser



- Cap keeps pocket unsoiled!
- No sharpening needed
- Long lasting supply of leads
- Reliable pencil points
- Writes smoothly & comfortably
- fits to your pocket
- # 2 leads
- Effective erasing
- Very economical: 3 for \$1.20

1. Pull old lead stage (point) out of bottom.
2. Push old stage into hole in top.
3. Fresh new point comes out at bottom.





-NEW!
-DELICIOUS!
 -the sweetness of caramel
 -the crunchiness of peanuts
 -the creaminess of milk chocolate
 -It's rich and filling.
 -Look for the red, white
 and blue package.
 -40¢



Sweet but not too sweet!

THESE CANDIES ARE MILK CHOCOLATE COVERED
 WITH CARAMEL AND PEANUTS. THEY ARE
 NOT SUITABLE FOR CHILDREN UNDER THE
 AGE OF FIVE. CONTAINS PARTIALLY HYDROGENATED PALM
 OIL. NET WT. 1.5 OZ. (42.5 G). MADE IN U.S.A.
 © 1998 Wm. Wrigley Chewing Gum Co.



APPENDIX E
EXPERIMENT II QUESTIONNAIRE

Experiment II Computer Questionnaire: Candy Bar

TEST MARKET STUDY QUESTIONNAIRE

(SCREEN)

WELCOME! WE WANT TO THANK YOU FOR PARTICIPATING IN THIS TEST MARKET STUDY.

HERE ARE IMPORTANT INSTRUCTIONS ABOUT HOW TO USE THE KEYBOARD IN ANSWERING QUESTIONS.

WHEN YOU ARE ASKED TO USE THE NUMBERS 1 THROUGH 9, PLEASE USE THE NUMBERS AT THE TOP OF THE KEYBOARD.

THE LETTER "1" SHOULD NOT BE USED AS THE NUMBER 1.

IF YOU TYPE AN INVALID RESPONSE, THE COMPUTER WILL SAY 'YOUR RESPONSE WAS NOT VALID. PLEASE RESPOND TO THIS QUESTION WITH A VALID SELECTION.' THE SAME QUESTION WILL BE DISPLAYED AGAIN ON THE SCREEN.

PLEASE ANSWER ALL QUESTIONS AS QUICKLY AND ACCURATELY AS POSSIBLE.

THANK YOU.

PRESS ANY KEY WHEN YOU ARE READY.

(NEW SCREEN FOR EACH NEW QUESTION.)

Please enter the number which is in the right hand corner of your experiment receipt. Please note that you have to press the <ENTER> key after that number. In the rest of the questionnaire, you will not have to press the <ENTER> key after your answers.

(NEW SCREEN)

Which of these classifications best describes you?

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Other

(NEW SCREEN)

YOU think this candy bar is VERY APPEALING. (Enter '1' if this is TRUE, or '2' if this is FALSE.)

1. True
2. False

What is your age?

1. less than 18 years old
2. 18-19 years old
3. 20-21 years old
4. 22-23 years old
5. 24 years or older

(NEW SCREEN)

YOU came to this experiment session with a FRIEND. (Press '1' for TRUE and '2' for FALSE.)

1. True
2. False

Using the numbers 1 through 7, please rate how you feel about this candy bar: (NEW SCREEN WITH THIS QUESTION FOR EACH SCALE.)

1----2----3----4----5----6----7

dislike

like

good

bad

The above ratings concerned your feelings about the candy bar. How certain are you that the ratings you gave were accurate?

1----2----3----4----5----6----7

not at all
certain

extremely
certain

(NEW SCREEN)

50% of the following items describe the candy bar. Please indicate using '1' for TRUE and '2' for FALSE for each item whether it describes the candy bar. Also rate how certain you are about the answer on a scale of 1 to 7, with '1' for NOT AT ALL certain and '7' for EXTREMELY certain.

The following two questions are examples.
Press the <Space> bar when you are done reading these instructions.

(NEW SCREEN)

This candy bar has a red, white and blue package. (Press '1' if this is TRUE, or '2' if this is FALSE.) You would key '1' for true.

Please press '1' now.

(NEW SCREEN)

The last question said this candy bar has a red, white and blue package. Your answer was TRUE - How certain are you about the ACCURACY of this answer?

	1----	2-----	3-----	4-----	5-----	6-----	7
not at all	certain						extremely
certain							

You could possibly key '6'.
Please do that now.

(NEW SCREEN)

The following questions are part of the actual survey. As always, please answer all of the following questions as QUICKLY as possible without sacrificing accuracy.

Please press the <space bar> when you are ready to continue.

(NEW SCREEN)

This candy bar costs 35 cents.
 (Press '1' if this is TRUE, or
 '2' if this is FALSE.)

1. True
2. False

(NEW SCREEN)

The last question stated that the price was 35 cents.
 Your answer was [SUBJECT'S ANSWER] - How certain are you
 about that answer?

1-----2-----3-----4-----5-----6-----7	
not at all	extremely
certain	certain

(NEW SCREEN AND SIMILAR TRUE-FALSE QUESTIONS FOR EACH OF
 THESE DESCRIPTIONS:)

has almonds

has 300 calories

has caramel

has coconut

has 250 calories

costs 40 cents

has milk chocolate

costs 50 cents

has peanuts

(NEW SCREEN)

Please wait here until the experimenter indicates
 otherwise.
 (SUBJECT IS TOLD TO PRESS '8' OR '9' TO CONTINUE.)

(NEW SCREEN)

This is the second part of the questionnaire.
Press any key to continue.

(NEW SCREEN)

If you were given the choice of receiving 4 candy bars
(retail value \$1.60) or \$1.30, which would you choose?

1. 4 candy bars
2. \$1.30

Experiment II Computer Questionnaire:
Staged Leads Pencil

TEST MARKET STUDY QUESTIONNAIRE

(SCREEN)

WELCOME! WE WANT TO THANK YOU FOR PARTICIPATING IN THIS
TEST MARKET STUDY.

HERE ARE IMPORTANT INSTRUCTIONS ABOUT HOW TO USE THE
KEYBOARD IN ANSWERING QUESTIONS.

WHEN YOU ARE ASKED TO USE THE NUMBERS 1 THROUGH 9,
PLEASE USE THE NUMBERS AT THE TOP OF THE KEYBOARD.

THE LETTER "1" SHOULD NOT BE USED AS THE NUMBER 1.

IF YOU TYPE AN INVALID RESPONSE, THE COMPUTER WILL
SAY 'YOUR RESPONSE WAS NOT VALID. PLEASE RESPOND TO
THIS QUESTION WITH A VALID SELECTION.' THE SAME
QUESTION WILL BE DISPLAYED AGAIN ON THE SCREEN.

PLEASE ANSWER ALL QUESTIONS AS QUICKLY AND ACCURATELY
AS POSSIBLE.

THANK YOU.

PRESS ANY KEY WHEN YOU ARE READY.

(NEW SCREEN FOR EACH NEW QUESTION.)

Please enter the number which is in the right hand corner
of your experiment receipt. Please note that you have to
press the <ENTER> key after that number. In the rest of
the questionnaire, you will not have to press the <ENTER>
key after your answers.

(NEW SCREEN)

Which of these classifications best describes you?

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Other

(NEW SCREEN)

YOU think this pencil is VERY APPEALING.

(Enter '1' if this is TRUE, or '2' if this is FALSE.)

1. True
2. False

What is your age?

1. less than 18 years old
2. 18-19 years old
3. 20-21 years old
4. 22-23 years old
5. 24 years or older

(NEW SCREEN)

YOU came to this experiment session with a FRIEND.

(Press '1' for TRUE and '2' for FALSE.)

1. TRUE
2. FALSE

Using the numbers 1 through 7, please rate how you feel about this pencil: (NEW SCREEN WITH THIS QUESTION FOR EACH SCALE.)

	1-----2-----3-----4-----5-----6-----7	
dislike		like
good		bad

The above ratings concerned your feelings about the pencil. How certain are you that the ratings you gave were accurate?

	1-----2-----3-----4-----5-----6-----7	
not at all		extremely
certain		certain

(NEW SCREEN)

The price of EACH pencil is \$1.20.

(Press '1' if this is TRUE, or '2' if this is FALSE.)

1. True
2. False

(NEW SCREEN)

The last question stated that the price was \$1.20 for EACH pencil. Your answer was [SUBJECT'S ANSWER] - How certain are you about that answer?

	1-----2-----3-----4-----5-----6-----7	
not at all		extremely
certain		certain

(NEW SCREEN AND THE SAME TWO TYPES OF QUESTIONS CONCERNING THESE DESCRIPTIONS:)

79 cents each

has a cap

40 cents each

has #2 lead

The type of lead (e.g., #2) was not mentioned.

has staged leads

only comes in yellow

has a scented eraser (not counted in the analyses)

does not need a pencil sharpener

(NEW SCREEN)

Please wait here until the experimenter indicates otherwise. (SUBJECTS ARE TOLD THAT THE FOLLOWING QUESTION CONCERNS 'BUFFALO' BRAND PENCILS, AND THEY ARE TO PRESS '8' OR '9' TO CONTINUE.)

(NEW SCREEN)

This is the second part of the questionnaire.
Press any key to continue.

(NEW SCREEN)

If you were given the choice of receiving 4 pencils
(retail value \$1.60) or \$1.30, which would you choose?

1. 4 pencils
2. \$1.30

(NEW SCREEN)

This question is about whether you recall seeing THIS
pencil or its brand name, "Buffalo", before today. This
does not include pencils LIKE this or the brand name for
an unrelated product. Please answer yes or no whether you
recall seeing THIS pencil or its brand name before today.

1. YES
2. NO

Please imagine that you are choosing between this candy bar and other candy bar brands FOR A PURCHASE. Which attributes would you use in such a decision? Please divide 100 points to show the relative importance of any or all of the following candy bar attributes in that PURCHASE CHOICE DECISION (high number of points means it's very important). You do not have to use all of these attributes. Please make sure the total points for the attributes together adds up to 100.

ATTRIBUTE	POINTS
how attractive it looks (not package)	_____
how chewy	_____
how fattening	_____
how large it is	_____
how sweet	_____
how healthful	_____
how rich	_____
how crunchy	_____
how delicious	_____
how expensive	_____
whether it has caramel	_____
whether it has milk chocolate	_____
whether it has peanuts	_____
how many calories	_____

Please imagine that you are choosing between this pencil and other pencil brands FOR A PURCHASE. Which attributes would you use in such a decision? Please divide 100 points to show the relative importance of any or all of the following pencil attributes in that PURCHASE CHOICE DECISION (high number of points means it's very important). You do not have to use all of these attributes. Please make sure the total points for the attributes together adds up to 100.

ATTRIBUTE	POINTS
how attractive the pencil looks	_____
how easy it is to refresh a worn point	_____
how long-lasting the supply of lead is	_____
how comfortable writing with it is	_____
how smoothly it writes	_____
how well it erases	_____
how durable the pencil is	_____
how reliable the pencil points are	_____
how expensive the pencil is	_____
design of lead supply (e.g., mechanical, conventional or staged leads)	_____
color of pencil (not the lead)	_____
whether it needs a pencil sharpener	_____
whether it has a cap	_____
type of lead (e.g., #2)	_____

APPENDIX F

ABBREVIATIONS AND MEANINGS OF MANIPULATED EFFECTS

EXPERIMENT II

SEQUENCE (FIRSTCON X PRODCON)	FIRSTCON	PRODCON
1. PENCIL AD, CANDY DPE	1	1
2. CANDY AD, PENCIL DPE	1	2
3. PENCIL DPE, CANDY AD	2	2
4. CANDY DPE, PENCIL AD	2	1

EXPERIMENT III

SEQUENCE (FIRSTCON X PRODCON)	FIRSTCON	PRODCON
1. BIKE AD, CHAIR DPE	1	1
2. CHAIR AD, BIKE DPE	1	2
3. BIKE DPE, CHAIR AD	2	2
4. CHAIR DPE, BIKE AD	2	1

MEDIA TYPE (OR TRTMT)= AD OR DIRECT PRODUCT EXPERIENCE (OR TREATMENT)

FIRSTCON= WHICH TREATMENT IS FIRST

PRODCON= WHICH PRODUCT-TREATMENT COMBINATION IS PRESENT

PRODCON X TRTMT= WHICH PRODUCT IS PRESENT

FIRSTCON X TRTMT= WHICH ORDINAL POSITION IS PRESENT (I.E., FIRST OR SECOND)

FIRSTCON X PRODCON= ORDER OF PRODUCT-TREATMENTS (SEQUENCE)

FIRSTCON X PRODCON X TRTMT= WHICH PRODUCT-TREATMENT-ORDINAL POSITION COMBINATION IS PRESENT

APPENDIX G

EXPERIMENT II MEANS AND SUM OF SQUARES

APPENDIX G-1

EXPERIMENT II-HYPOTHESIS 1: INTERACTION OF MEDIA TYPE AND
ATTRIBUTE TYPE IN THEIR EFFECT ON BELIEF CONFIDENCE

BELIEF CONFIDENCE MEANS:

Level of		N	AD/	AD/	DPE/	DPE/
Firstcon	Prodcon		Search	Exper.	Search	Exper.
1	1	15	6.4651	4.7429	6.0857	5.6667
1	2	14	6.5068	5.4592	6.4286	5.8265
2	1	15	6.5556	5.4381	6.0651	5.8190
2	2	15	6.4222	5.1429	6.1317	5.6190

BETWEEN-SUBJECTS EFFECTS

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.
-----	-----	-----
Firstcon	1	.0116
Prodcon	1	.3303
Firstcon X Prodcon	1	3.4048
Error	55	107.4014

WITHIN-SUBJECTS EFFECTS

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
-----	-----	-----	-----	-----
Media Type	1	.6040	1.08	.29
Media Type X Firstcon	1	.6770		
Media Type X Prodcon	1	.0180		
Media Type X Firstc X Prodc	1	.3898		
Error(Media Type)	55	28.5255		
Attribute Type	1	45.7330	7.66	.0001
Attribute Type X Firstcon	1	.2640		
Attribute Type X Prodcon	1	.0245		
Attrib X Firstcon X Prodcon	1	.6196		
Error(Attribute Type)	55	42.9091		
Attribute Type X Media Type	1	11.1983	4.51	.0001*
Attrib X Media X Firstcon	1	.0001		
Attrib X Media X Prodcon	1	1.0395		
Attr X Media X First X Prod	1	.3925		
Error(Media X Attrib. Type)	55	30.3221		

* a one-tail t-test

APPENDIX G-2

EXPERIMENT II-HYPOTHESIS 2: MAIN EFFECT OF MEDIA TYPE ON
SEARCH ATTRIBUTE BELIEF ACCURACY

SEARCH BELIEF ACCURACY MEANS:

Level of		N	AD	DPE
Firstcon	Prodcon			
1	1	15	9.5556	9.1333
1	2	15	9.4667	8.8889
2	1	15	9.6296	8.9333
2	2	15	9.6667	7.9259

BETWEEN-SUBJECTS EFFECTS

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.
Firstcon	1	1.4815
Prodcon	1	3.1868
Firstcon X Prodcon	1	.7609
Error	56	83.0066

WITHIN-SUBJECTS EFFECTS

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Media Type	1	22.1498	5.13	.0001*
Media Type X Firstcon	1	3.8720		
Media Type X Prodcon	1	2.7000		
Media Type X Firstc X Prodc	1	1.4815		
Error(Media Type)	56	47.1547		

* a one-tail t-test

APPENDIX G-3

EXPERIMENT II HYPOTHESIS 5: WEIGHTED BELIEF CONFIDENCE
 MODERATES ATTITUDE-BEHAVIOR CONSISTENCY (THE
 INTERACTION OF ATTITUDE AND BELIEF CONFIDENCE IN THEIR
 EFFECT ON CHOICE)

DEPENDENT VARIABLE: CHOICE (MONEY=1, PRODUCT =2) *

	ATTITUDE	
	LOW	HIGH
	-----	-----
	LOW 1.30	1.63
	(N) (10)	(30)
WGTED. BELIEF CONFIDENCE		
	HIGH 1.13	1.64
	(N) (8)	(44)

GENERAL LINEAR MODEL PROCEDURE:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	r ²
Model	58	16.6167	.2865	1.55	.09	.73
Error	33	6.1116	.1852			
Corrected Total	91	22.7283				

MODEL:

SOURCE	DF	SUM OF SQ.	t VALUE	1-TAIL PROB>t
Attitude	1	.1222		
Weighted Belief Confidence	1	.3380		
Attitude X Wgt. Belief Conf.	1	.3452	1.36	.09*
TREATMENT, ORDER, PRODUCT AND SUBJECT EFFECTS (SEE APPENDIX F):				
Media Type	1	.0812		
Firstcon	1	.0627		
Media Type X Firstcon	1	.1340		
Prodcon	1	.1817		
Media Type X Prodcon	1	.4573		
Firstcon X Prodcon	1	.0014		
Media X Firstcon X Prodcon	1	.0484		
Subjects(Firstcon X Prodcon)	48	11.8494		

* These means are only illustrative, because weighted belief confidence was dichotomized using a median split. In the hypothesis tests, weighted belief confidence was a continuous variable.

APPENDIX G-4

EXPERIMENT II-HYPOTHESIS 7: INTERACTION OF MEDIA TYPE AND
ATTRIBUTE TYPE IN THEIR EFFECT ON BELIEF ACCESSIBILITY

BELIEF ACCESSIBILITY (BELIEF RESPONSE TIME) MEANS:

Level of		N	AD/	AD/	DPE/	DPE/
Firstcon	Prodcon		Search	Exper.	Search	Exper.
1	1	15	4.9350	8.3931	4.4046	5.4766
1	2	14	4.9842	6.9769	4.0461	5.9547
2	1	15	4.2267	7.2294	5.2325	7.3307
2	2	15	3.4343	4.9390	5.2556	8.5903

BETWEEN-SUBJECTS EFFECTS

SOURCE (SEE APPENDIX F)	DF	TYPE III
		SUM OF SQ.
Firstcon	1	1.0491
Prodcon	1	8.5552
Firstcon X Prodcon	1	.2814
Error	55	460.7491

WITHIN-SUBJECTS EFFECTS

SOURCE (SEE APPENDIX F)	DF	TYPE III	t VALUE	PROB>t
		SUM OF SQ.		
Media Type	1	1.2659	.98	.33
Media Type X Firstcon	1	132.3470		
Media Type X Prodcon	1	31.5463		
Media Type X Firstc X Prodc	1	7.6341		
Error(Media Type)	55	72.1062		
Attribute Type	1	310.8730	12.55	.0001
Attribute Type X Firstcon	1	2.0965		
Attribute Type X Prodcon	1	.7299		
Attrib X Firstcon X Prodcon	1	.1242		
Error(Attribute Type)	55	108.6187		
Attribute Type X Media Type	1	2.1981	1.66	.05
Attrib X Media X Firstcon	1	10.6202		
Attrib X Media X Prodcon	1	23.3634		
Attr X Media X First X Prod	1	.1724		
Error(Media X Attrib. Type)	55	43.6839		

* a one-tail t-test

APPENDIX G-5

EXPERIMENT II HYPOTHESIS 8: ATTITUDE ACCESSIBILITY
 MODERATES ATTITUDE-BEHAVIOR CONSISTENCY (THE INTERACTION
 OF ATTITUDE AND ATTITUDE ACCESSIBILITY IN THEIR EFFECT
 ON CHOICE)

DEPENDENT VARIABLE: CHOICE (MONEY=1, PRODUCT =2)

	ATTITUDE	
	LOW	HIGH
ATTITUDE ACCESSIBILITY		
LOW	1.10	1.74
(N)	(10)	(31)
HIGH	1.38	1.53
(N)	(8)	(5)

GENERAL LINEAR MODEL PROCEDURE:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	r ²
Model	61	17.9004	.2934	1.73	.05	.77
Error	32	5.4293	.1697			
Corrected Total	93	23.3298				

MODEL:

SOURCE	DF	SUM OF SQ.	t VALUE	1-TAIL PROB>t
Attitude	1	.1083		
Attitude Accessibility	1	.0000		
Attitude X Attitude Access.	1	.6326	1.93	.03*
Attitude Polarity	1	.0098		
Attitude X Attitude Polarity	1	.0946		
TREATMENT, ORDER, PRODUCT AND SUBJECT EFFECTS SEE APPENDIX F):				
Media Type	1	.0009		
Firstcon	1	.0532		
Media Type X Firstcon	1	.2560		
Prodcon	1	.2639		
Media Type X Prodcon	1	.4668		
Firstcon X Prodcon	1	.0008		
Media X Firstcon X Prodcon	1	.0401		
Subjects(Firstcon X Prodcon)	49	12.5788		

APPENDIX H
EXPERIMENT III ADVERTISEMENTS

KENT

Fold-Out Chair-Bed

Colors: Gray, Black,
Beige, Red & Dk. Blue

100% Cotton Canvas

\$89.95

SUGGESTED
RETAIL PRICE



·Removable, hand
washable cover

·Soil resistant with
Scotchgard

·Fire retardant

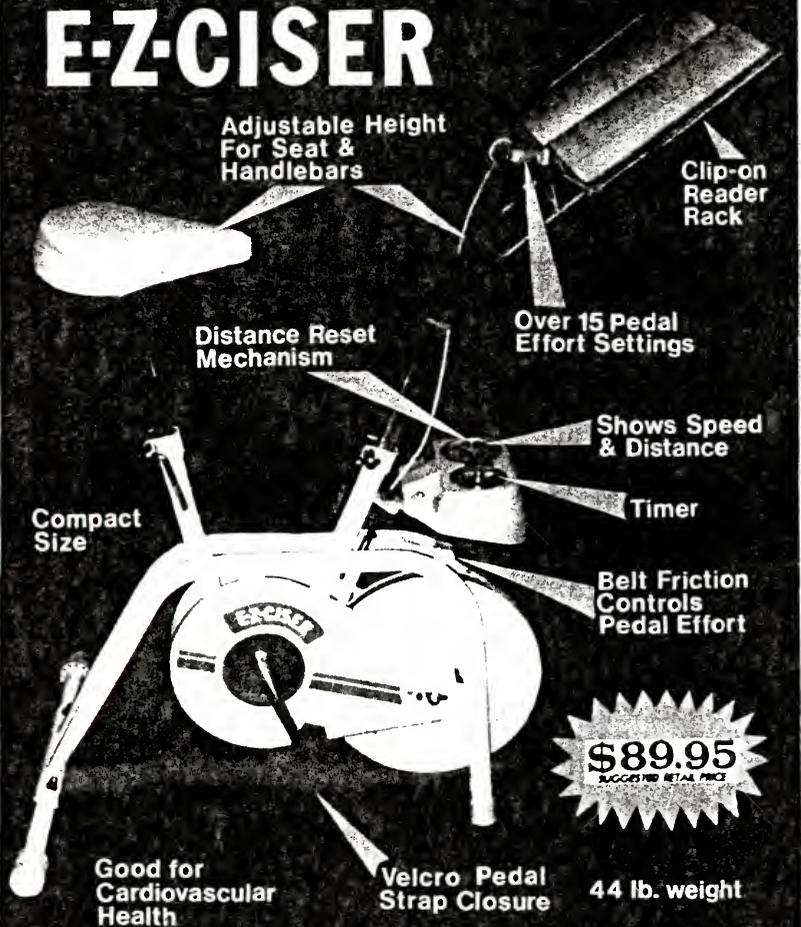
·Super firm: for those
who prefer a very
firm mattress

·Dimensions:
21" x 27" x 14" seat ht.,
11" back support ht.

·1.2 lb. density poly-
urethane foam filled

MADE IN U.S.A.

E-Z-CISER



Adjustable Height
For Seat &
Handlebars

Clip-on
Reader
Rack

Distance Reset
Mechanism

Over 15 Pedal
Effort Settings

Shows Speed
& Distance

Compact
Size

Timer

Belt Friction
Controls
Pedal Effort

\$89.95

SUGGESTED RETAIL PRICE

Good for
Cardiovascular
Health

Velcro Pedal
Strap Closure

44 lb. weight

Made in Taiwan

APPENDIX I
EXPERIMENT III QUESTIONNAIRE

1. Using the numbers 1 through 7, please circle the number which best describes how you feel about this stationary bicycle:

1	2	3	4	5	6	7

unfavorable						favorable

1	2	3	4	5	6	7

good						bad

1	2	3	4	5	6	7

dislike						like

1	2	3	4	5	6	7

appealing						unappealing

2. The above ratings concerned your evaluation of the stationary bicycle. How do you feel about the above evaluations?

1	2	3	4	5	6	7

extremely uncertain						extremely certain

1	2	3	4	5	6	7

extremely sure						extremely unsure

1	2	3	4	5	6	7

not at all confident						extremely confident

3. Have you participated in any previous experiment which concerned this brand of stationary bicycle? (yes or no)

Experiment III Computer Questionnaire
(Stationary Bicycle Questions First)

(NEW SCREEN FOR EACH NEW QUESTION.)

WELCOME to the computer questionnaire! All you have to do to answer questions is to press the number representing the most appropriate response. PLEASE USE THE NUMBER KEYS AT THE TOP OF THE KEYBOARD. The keypad numbers will not work. Please work as quickly and accurately as possible. Also, please try not to ask the experimenter any questions unless it is absolutely necessary.

REMEMBER TO WORK QUICKLY AND ACCURATELY.

PLEASE PRESS THE NUMBER "7" WHEN YOU ARE READY TO BEGIN.

(NEW SCREEN)

For what class are you doing this experiment today?

1. MAR 3023 (MARKETING PRINCIPLES)
2. MAR 3503 (CONSUMER BEHAVIOR)
3. MAR 4613 (MARKETING RESEARCH)
4. OTHER

What is your age?

1. less than 18 years old
2. 18-19 years old
3. 20-21 years old
4. 22-23 years old
5. 24 years old or older

At the end of Summer C, there will be a drawing in which the winner will ACTUALLY receive 1 E-Z-CISER STATIONARY BICYCLE OR \$40 IN CASH. Please use the YELLOW slip provided and WRITE YOUR SUBJECT NUMBER and which alternative ("BIKE" or \$40) that you wish to receive if your subject number is drawn. Your choice of prizes will not alter your chances of winning.

When you've written your subject number and choice on the yellow slip, place it in the yellow box.

To continue the questionnaire, please press "7".

Please press the number key which corresponds to the choice which you just made. In other words, which of the following choices did you prefer to receive?

1. \$40 IN CASH
2. 1 E-Z-CISER STATIONARY BICYCLE

At the end of Summer C, there will be a drawing in which the winner will ACTUALLY receive 1 KENT FOLD-OUT CHAIR-BED OR \$40 IN CASH. Please use the PINK slip provided and WRITE YOUR SUBJECT NUMBER and which alternative ("CHAIR-BED" or \$40) that you wish to receive if your subject number is drawn. Your choice of prizes will not alter your chances of winning.

When you've written your subject number and choice on the pink slip, place it in the pink box.

To continue the questionnaire, please press "7".

Please press the number key which corresponds to the choice which you just made. In other words, which of the following choices did you prefer to receive?

1. \$40 IN CASH
2. 1 KENT CHAIR-BED

Which of these classifications best describes you?

1. FRESHMAN
2. SOPHOMORE
3. JUNIOR
4. SENIOR
5. POST-BACCALAUREATE
6. OTHER

How would you describe your chances of buying this STATIONARY BICYCLE if you saw it in a store?: (NEW SCREEN WITH THIS QUESTION FOR EACH SCALE.)

1----2----3----4----5----6----7
 Very unlikely Very likely
 Very possible Impossible

Which of the following best describes your major?

1. Marketing
2. Finance
3. Management
4. Accounting
5. Communications
6. Psychology
7. Other

How would you describe your chances of buying this FOLD-OUT CHAIR-BED if you saw it in a store?: (NEW SCREEN WITH THIS QUESTION FOR EACH SCALE.)

1----2----3----4----5----6----7
 Very unlikely Very likely
 Very possible Impossible

(NEW SCREEN)

Please wait here until the experimenter indicates otherwise. (IMPORTANT ATTRIBUTES ELICITATION FOR BOTH PRODUCTS. SUBJECTS ARE THEN TOLD TO PRESS '8' OR '9'.)

Using the numbers 1 through 7, please rate how you feel about this STATIONARY BICYCLE: (NEW SCREEN WITH THIS QUESTION FOR EACH SCALE.)

1----2----3----4----5----6----7
 Unfavorable Favorable
 Good Bad
 Dislike Like
 Appealing Unappealing

Which of the following are you?

1. Female
2. Male

Using the numbers 1 through 7, please rate how you feel about this FOLD-OUT CHAIR-BED: (NEW SCREEN WITH THIS QUESTION FOR EACH SCALE.)

1----2----3----4----5----6----7
 Unfavorable Favorable
 Good Bad
 Dislike Like
 Appealing Unappealing

The stationary bike has a book rack for reading. (Press '1' if this is TRUE, or '2' if this is FALSE.)

1. True
2. False

The last question stated that the bike has a book rack for reading. Your answer was [SUBJECT'S ANSWER] - How certain are you about that answer?

1----2----3----4----5----6----7
 not at all extremely
 certain certain

How comfortable is this stationary bike's seat?

How comfortable is this bike in general?

How attractive is the appearance of this bike?

How sturdy is this bike?

How would you describe the selection of features on this bike? (poor... excellent)

What level of quality does this stationary bike have?

(NEW SCREEN)

This is a breather. Please look up when you get to this screen. (SUBJECT IS TOLD TO PRESS '8' OR '9' TO CONTINUE.)

The fold-out chair-bed costs less than \$60. (Press '1' if this is TRUE, or '2' if this is FALSE.)

1. True
2. False

The last question said that the chair-bed costs less than \$60. Your answer was [SUBJECT'S ANSWER] - How certain are you about that answer?

1-----2-----3-----4-----5-----6-----7
not at all extremely
certain certain

(NEW SCREEN AND THE SAME TWO TYPES OF QUESTIONS FOR EACH OF THESE DESCRIPTIONS:)

comes in more than 4 colors
 has a 100% cotton cover
 costs \$69.95
 is soil-resistant with Scotchgard
 is dry-clean only
 costs \$89.95
 does not come in beige

How many times in the last 6 months have you used some kind of stationary bicycle? (not including today)

1. 0 times
2. 1-2 times
3. 3-4 times
4. 5-6 times
5. 7 or more times

How many times in the last 6 months have you used some kind of fold-out chair-bed? (not including today)

1. 0 times
2. 1-2 times
3. 3-4 times
4. 5-6 times
5. 7 or more times

How many people do you think will participate in this experiment? Please type the number between 1 and 9999 which represents your response and then press <ENTER> when you are finished.

(END)

APPENDIX J

EXPERIMENT III CODING PROCEDURE

- I. First, write subject number (number in top right hand corner) in left margin (see example).

- II. Second, decide if the words in the box describe one or more attributes. For each attribute that you separate out (in order of appearance), do the following:
 1. an experience attribute: an aspect of a product which can be truly discovered and known ONLY after USING the product (e.g., sweetness or crunchiness of a candy bar): IF YES, WRITE "1", IF NO, go to "2." below.

 2. a search attribute: an aspect of a product which can be truly discovered and known WITHOUT USING the product (e.g., ingredients or number of calories in a candy bar): IF YES, WRITE "2", IF NO, go to "3." below.

 3. a credence attribute: an aspect of a product which cannot be discovered or evaluated even after using the product (e.g., whether the product will prevent gum disease, how well a motor oil works): IF YES, WRITE "3".

- III. Third, is the attribute most directed toward...
 - A. AN ASPECT OF THE PRODUCT ITSELF (e.g., sweetness or ingredients of a candy bar): IF YES, go to "1.", IF NO, go to "B." below.

OR

- B. OTHER (e.g., package, brand name, advertisement, distribution): IF YES, WRITE "4".

APPENDIX K

EXPERIMENT II MEANS AND
SUM OF SQUARES TABLES

APPENDIX K-1
 EXPERIMENT III-HYPOTHESIS 1: MAIN EFFECT OF INVOLVEMENT
 ON THE NUMBER OF IMPORTANT ATTRIBUTES USED IN A
 BRAND CHOICE DECISION

MEAN NUMBER OF IMPORTANT ATTRIBUTES USED IN BRAND CHOICE:

Firstcon	Prodcon	Invol	N	AD	DPE
1	1	1	23	5.7826	4.3478
1	1	2	23	4.8696	4.2609
1	2	1	23	4.4348	4.6957
1	2	2	23	4.5652	4.2174
2	1	1	23	4.1739	4.7391
2	1	2	23	4.5217	4.6087
2	2	1	23	4.3478	5.3913
2	2	2	23	4.3913	4.9130

BETWEEN-SUBJECTS EFFECT*	DF	TYPE III SUM OF SQ.	t VALUE	1-TAIL PROB>t
Firstcon	1	.0109		
Prodcon	1	.1739		
Firstcon X Prodcon	1	7.9239		
Involvement	1	3.5217	.94	.17
Involvement X Firstcon	1	1.8370		
Involvement X Prodcon	1	.0000		
Invol X Firstc X Prodc	1	2.4457		
Error	176	404.7391		

WITHIN-SUBJECTS EFFECT*	DF	TYPE III SUM OF SQ.
Media Type	1	.0109
Media Type X Firstcon	1	27.1739
Media Type X Prodcon	1	11.8370
Media Type X Firstc X Prodc	1	1.5652
Media Type X Involvement	1	.8804
Media Type X Invol X Firstc	1	2.1304
Media Type X Invol X Prodc	1	3.1413
Media X Invol X First X Prod	1	2.7826
Error(Media Type)	176	174.4783

* Appendix F explains these effects.

APPENDIX K-2

EXPERIMENT III HYPOTHESIS 2A: THE INTERACTION OF MEDIA
TYPE AND ATTRIBUTE TYPE IN THEIR EFFECT ON THE
NUMBER OF IMPORTANT ATTRIBUTES ELICITED

MEAN NUMBER OF IMPORTANT ATTRIBUTES ELICITED¹:

Prodcon	Invol	Media	N	Experience	Search
1	1	1	23	.4783	5.2174
1	1	2	23	1.8261	2.7391
1	2	1	23	1.3043	3.4348
1	2	2	23	1.7826	2.6522
2	1	1	23	1.3043	2.8261
2	1	2	23	1.5217	3.7391
2	2	1	23	1.4783	2.8261
2	2	2	23	1.4783	3.2609

BETWEEN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Prodcon	1	1.4375		
Involvement	1	2.9592		
Involvement X Prodcon	1	.7853		
Media Type	1	.0245	.17	.87
Media Type X Prodcon	1	12.9375		
Media Type X Involvement	1	.0245		
Media Type X Invol X Prodc	1	3.3288		
Error	176	148.4783		

WITHIN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Attribute Type	1	346.3288	12.25	.0001
Attribute Type X Prodcon	1	4.5679		
Attribute Type X Invol	1	15.2853		
Attrib X Invol X Prodcon	1	6.0027		
Attribute Type X Media Type	1	22.5027	3.12	.001 ²
Attrib X Media X Prodcon	1	55.5679		
Attrib X Media X Invol	1	7.6332	1.82	.04 ²
Attr X Media X Invol X Prod	1	11.4810		
Error(Media X Attrib. Type)	176	406.1304		

¹ Because of a higher order interaction with ordinal position, only data from the first product exposure is used in this analysis.

² a one-tail test

APPENDIX K-3

EXPERIMENT III-HYPOTHESIS 2B: INTERACTION OF MEDIA
TYPE, ATTRIBUTE TYPE AND INVOLVEMENT IN THEIR
EFFECT ON BELIEF CONFIDENCE

BELIEF CONFIDENCE MEANS:

Firstcon	Prodcon	Invol	N	AD/ Exper.	AD/ Search	DPE/ Exper.	DPE/ Search
1	1	1	23	5.2087	6.4545	6.2919	5.6108
1	1	2	23	4.4696	6.2352	6.1118	5.5704
1	2	1	23	5.1677	6.0031	6.0696	6.4289
1	2	2	23	5.5342	6.2122	6.0957	6.4091
2	1	1	23	4.4174	6.3874	6.1304	5.5590
2	1	2	23	4.4261	6.3577	6.0186	5.4058
2	2	1	23	4.9689	5.9793	5.5652	6.1047
2	2	2	22	5.5390	6.0682	6.1091	6.4256

BETWEEN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.
Firstcon	1	4.1536
Prodcon	1	11.5791
Firstcon X Prodcon	1	.0058
Involvement	1	.2933
Involvement X Firstcon	1	2.4060
Involvement X Prodcon	1	9.1112
Invol X Firstc X Prodc	1	.0017
Error	175	306.1418

WITHIN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Media Type	1	29.9870	6.39	.0001
Media Type X Firstcon	1	.0118		
Media Type X Prodcon	1	.7048		
Media Type X Firstc X Prodc	1	.3968		
Media Type X Involvement	1	.0122		
Media Type X Invol X Firstc	1	.0306		
Media Type X Invol X Prodc	1	.5253		
Media X Invol X First X Prod	1	2.2067		
Error(Media Type)	175	128.4425		

Attribute Type	1	59.0277	9.12	.0001
Attribute Type X Firstcon	1	.9253		
Attribute Type X Prodcon	1	.0041		
Attrib X Firstcon X Prodcon	1	.3694		
Attribute Type X Invol	1	.0767		
Attrib X Invol X Firstcon	1	1.0992		
Attrib X Invol X Prodcon	1	1.5805		
Attrib X Invol X First X Prod	1	.0406		
Error(Attribute Type)	175	124.2539		

Attribute Type X Media Type	1	84.0439	12.23	.0001*
-----------------------------	---	---------	-------	--------

Attrib X Media X Firstcon	1	.3448		
Attrib X Media X Prodcon	1	43.4330		
Attr X Media X First X Prod	1	.7277		
Attrib X Media X Invol	1	.0001	.00	.49*
Attr X Media X Invol X Fir	1	.1959		
Attr X Media X Invol X Prod	1	.4049		
Attr X Med X Inv X Fir X Pro	1	.0379		
Error(Media X Attrib. Type)	175	98.2923		

* a one-tail probability

APPENDIX K-4

EXPERIMENT III-HYPOTHESIS 2B: INTERACTION OF MEDIA
TYPE, ATTRIBUTE TYPE AND INVOLVEMENT IN THEIR
EFFECT ON BELIEF ACCESSIBILITY

BELIEF ACCESSIBILITY (RESPONSE TIME) MEANS:

Firstcon	Prodcon	Invol	N	AD/ Exper.	AD/ Search	DPE/ Exper.	DPE/ Search
1	1	1	21	7.4410	5.8720	6.4926	5.3493
1	1	2	23	7.6320	6.0215	6.5131	5.7398
1	2	1	21	7.4243	6.3003	5.4700	4.8064
1	2	2	21	7.9629	6.4783	6.4001	5.5437
2	1	1	22	7.0125	4.9808	7.3521	7.3636
2	1	2	22	6.4795	5.0407	7.3521	7.3636
2	2	1	23	7.2043	5.3907	7.0241	6.7244
2	2	2	21	6.7809	5.4855	6.4943	6.1076

BETWEEN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.
Firstcon	1	2.5383
Prodcon	1	1.8089
Firstcon X Prodcon	1	.0539
Involvement	1	2.6150
Involvement X Firstcon	1	12.5967
Involvement X Prodcon	1	.0144
Invol X Firstc X Prodc	1	7.8942
Error	166	1742.8648

WITHIN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Media Type	1	3.2434	1.81	.07
Media Type X Firstcon	1	161.9761		
Media Type X Prodcon	1	30.7169		
Media Type X Firstc X Prodc	1	.2278		
Media Type X Involvement	1	1.4316		
Media Type X Invol X Firstc	1	.2364		
Media Type X Invol X Prodc	1	.9556		
Media X Invol X First X Prod	1	5.8955		
Error(Media Type)	166	163.7693		

Attribute Type	1	190.6826	13.51	.0001
Attribute Type X Firstcon	1	1.9339		
Attribute Type X Prodcon	1	.5664		
Attrib X Firstcon X Prodcon	1	.7082		
Attribute Type X Invol	1	.8108		
Attrib X Invol X Firstcon	1	1.6159		
Attrib X Invol X Prodcon	1	1.2139		
Attrib X Invol X First X Prod	1	.1233		
Error(Attribute Type)	166	173.3287		
Attribute Type X Media Type	1	43.1507	6.73	.0001*

Attrib X Media X Firstcon	1	7.2602		
Attrib X Media X Prodcon	1	.6142		
Attr X Media X First X Prod	1	.2463		
Attrib X Media X Invol	1	.0717	.28	.39*
Attr X Media X Invol X Fir	1	1.4936		
Attr X Media X Invol X Prod	1	.2053		
Attr X Med X Inv X Fir X Pro	1	.0027		
Error(Media X Attrib. Type)	166	158.0623		

* a one-tail probability

APPENDIX K-5

EXPERIMENT III-HYPOTHESIS 2C: INTERACTION OF MEDIA
TYPE AND INVOLVEMENT IN THEIR EFFECT ON
SEARCH BELIEF ACCURACY

BELIEF ACCURACY MEANS (PROPORTION ANSWERED INCORRECTLY):

Firstcon	Prodcon	Invol	N	AD	DPE
1	1	1	23	.0386	.2717
1	1	2	23	.0725	.1957
1	2	1	23	.1522	.0580
1	2	2	23	.1848	.1304
2	1	1	23	.0773	.2663
2	1	2	23	.0725	.2880
2	2	1	23	.1359	.1014
2	2	2	23	.1793	.0628

BETWEEN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.
Firstcon	1	.0091
Prodcon	1	.1109
Firstcon X Prodcon	1	.0423
Involvement	1	.0103
Involvement X Firstcon	1	.0024
Involvement X Prodcon	1	.0263
Invol X Firstc X Prodc	1	.0365
Error	176	3.9237

WITHIN-SUBJECTS EFFECTS	DF	TYPE III SUM OF SQ.	t VALUE	1-TAIL PROB>t
Media Type	1	.3060	4.04	.0001
Media Type X Firstcon	1	.0030		
Media Type X Prodcon	1	1.6164		
Media Type X Firstc X Prodc	1	.0037		
Media Type X Involvement	1	.0227	1.10	.14
Media Type X Invol X Firstc	1	.0003		
Media Type X Invol X Prodc	1	.0024		
Media X Invol X First X Prod	1	.0960		
Error(Media Type)	176	3.2993		

APPENDIX K-6

EXPERIMENT III-HYPOTHESIS 3: THE INTERACTION OF MEDIA
TYPE, ATTRIBUTE TYPE AND INVOLVEMENT IN THEIR
EFFECT ON THE WEIGHTING OF IMPORTANT ATTRIBUTES ELICITED

MEAN WEIGHTING OF THE IMPORTANT ATTRIBUTES ELICITED¹:

Prodcon	Invol	Media	N	Experience	Search
1	1	1	23	10.3043	88.9565
1	1	2	23	49.1739	47.6957
1	2	1	23	28.2609	66.9565
1	2	2	23	43.3043	53.4348
2	1	1	23	31.5252	59.7826
2	1	2	23	40.0000	58.0435
2	2	1	23	35.4348	60.5217
2	2	2	23	35.2174	58.9130

BETWEEN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Prodcon	1	106.5326		
Involvement	1	17.3913		
Involvement X Prodcon	1	34.0870		
Media Type	1	23.0000	.57	.58
Media Type X Prodcon	1	47.3478		
Media Type X Involvement	1	30.5326		
Media Type X Invol X Prodc	1	222.2717		
Error	176	12340.5652		

WITHIN-SUBJECTS EFFECT	DF	TYPE III SUM OF SQ.	t VALUE	PROB>t
Attribute Type	1	70236.5652	7.32	.0001
Attribute Type X Prodcon	1	1377.5652		
Attribute Type X Invol	1	958.7935		
Attrib X Invol X Prodcon	1	1369.8370		
Attribute Type X Media Type	1	20790.0978	3.98	.0001 ²
Attrib X Media X Prodcon	1	13561.8370		
Attrib X Media X Invol	1	5235.1739	2.00	.02 ²
Attrib X Media X Invol X Prod	1	2631.1304		
Error(Media X Attrib.)	176	230699.0000		

¹ Because of a higher order interaction with ordinal position, only data from the first product exposure was used in this analysis.

² a one-tail test

APPENDIX K-7

EXPERIMENT III-HYPOTHESIS 4: THE INTERACTION OF
INVOLVEMENT, ATTRIBUTE TYPE IMPORTANCE* AND MEDIA
TYPE IN THEIR EFFECTS ON ATTITUDE CONFIDENCE

(RELEVANT MEANS ARE IN TABLE 20.)

GENERAL LINEAR MODEL PROCEDURE:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	R ²
Model	203	298.8658	1.4722	1.45	.01	.69
Error	134	136.2338	1.0167			
Corrected Total	337	435.0996				

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Importance	1	.3441		
Firstcon	1	.1452		
Importance X Firstcon	1	1.0455		
Prodcon	1	.5205		
Importance X Prodcon	1	.5766		
Firstcon X Prodcon	1	3.0746		
Impor X Firstc X Prodc	1	.0473		
Media Type	1	3.3370		
Importance X Media	1	1.4270	1.18	.12
Media X Firstcon	1	10.2274		
Impor X Media X Firstc	1	.2432		
Prodcon X Media Type	1	.0013		
Impor X Media X Prodc	1	.0562		
Firstc X Prodc X Media	1	2.5538		
Imp X Fir X Pro X Media	1	.3000		
Involvement	1	.0968		
Impor X Involvement	1	.4250		
Firstcon X Involvement	1	.8032		
Impor X Firstc X Invol	1	.0488		
Prodcon X Involvement	1	.9642		
Impor X Prodc X Invol	1	.0064		
Firstc X Prodc X Invol	1	.0196		
Imp X Fir X Pro X Invol	1	.5304		
Media X Involvement	1	.5137		
Impor X Media X Invol	1	1.1455	1.06	.15
Firstc X Media X Invol	1	.0101		
Imp X Fir X Med X Inv	1	4.1618		
Prodc X Media X Invol	1	.0272		
Imp X Pro X Med X Invol	1	.8841		
Fir X Pro X Med X Invol	1	.0011		
Imp X Fir X Pro X Med X Inv	1	.8693		
Subjects(Fir X Pro X Inv)	172	242.7147		

*In the testing of EIIH4, attribute type importance was a continuous variable consisting of the difference between the two attribute type weights.

APPENDIX K-8

EXPERIMENT III-HYPOTHESIS 5: THE MODERATING INFLUENCE OF INVOLVEMENT ON ATTITUDE-BEHAVIOR CONSISTENCY

(RELEVANT MEANS AND CORRELATIONS ARE IN TABLE 21.)

GENERAL LINEAR MODEL PROCEDURE FOR SEARCH-AD CELLS:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	R ²
Model	9	5.3147	.5905	2.79	.01	.20
Error	103	21.7649	.2113			
Corrected Total	112	27.0796				

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Attitude	1	2.3647		
Attitude X Involvement	1	.2722	1.14	.13
Involvement	1	.0001		
Firstcon	1	.3112		
Firstcon X Involvement	1	.2552		
Prodcon	1	1.6118		
Prodcon X Involvement	1	.0729		
Firstcon X Prodcon	1	.0082		
Firstc X Prodc X Invol	1	.2545		

GENERAL LINEAR MODEL PROCEDURE FOR SEARCH-DPE CELLS:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	R ²
Model	9	5.4332	.6037	2.84	.01	.23
Error	86	18.3064	.2129			
Corrected Total	95	23.7396				

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Attitude	1	3.9893		
Attitude X Involvement	1	.0010	.00	.47
Involvement	1	.2472		
Firstcon	1	.6197		
Firstcon X Involvement	1	.3956		
Prodcon	1	.0639		
Prodcon X Involvement	1	.0114		
Firstcon X Prodcon	1	.1137		
Firstc X Prodc X Invol	1	.0278		

GENERAL LINEAR MODEL PROCEDURE FOR EXPERIENCE-AD CELLS:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	R ²
Model	9	3.9009	.4334	2.85	.02	.47
Error	29	4.4068	.1520			
Corrected Total	38	8.3077				

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Attitude	1	.3383		
Attitude X Involvement	1	.5640	1.93	.03
Involvement	1	.0010		
Firstcon	1	.0430		
Firstcon X Involvement	1	.0217		
Prodcon	1	2.5754		
Prodcon X Involvement	1	.0218		
Firstcon X Prodcon	1	.0684		
Firstc X Prodc X Invol	1	.0398		

GENERAL LINEAR MODEL PROCEDURE FOR EXPERIENCE-DPE CELLS:

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	R ²
Model	9	3.2204	.3578	1.82	.08	.22
Error	57	11.1975	.1964			
Corrected Total	66	14.4179				

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Attitude	1	1.3750		
Attitude X Involvement	1	.2479	1.12	.13
Involvement	1	.2462		
Firstcon	1	.0876		
Firstcon X Involvement	1	.2658		
Prodcon	1	.0375		
Prodcon X Involvement	1	.0521		
Firstcon X Prodcon	1	.4959		
Firstc X Prodc X Invol	1	.0711		

* In the testing of EIIH5, attribute type importance was dichotomized because of a higher order interaction of that variable (and media type) with the effect of interest.

APPENDIX K-9

EXPERIMENT III-HYPOTHESIS 6: THE INTERACTION OF
INVOLVEMENT, ATTRIBUTE TYPE IMPORTANCE* AND
MEDIA TYPE IN THEIR EFFECTS ON
ATTITUDE-BEHAVIOR CONSISTENCY

(RELEVANT MEANS AND CORRELATIONS ARE IN TABLE 21.)

GENERAL LINEAR MODEL PROCEDURE (MIN MODEL)

SOURCE	DF	SUM OF SQ.	MEAN SQ.	F VALUE	PROB>F	R ²
Model	197	51.1645	.2597	1.30	.06	.69
Error	117	23.3561	.1996			
Corrected Total	314	74.5206				

SOURCE (SEE APPENDIX F)	DF	TYPE III SUM OF SQ.	t	1-TAIL PROB>t
Attitude	1	3.7430		
Importance	1	.0528		
Importance X Attitude	1	.0167		
Attitude X Media Type	1	.4748		
Importance X Media Type	1	.0459		
Impor X Attitude X Media	1	.0375		
Attitude X Media X Invol	1	.0008		
Imp X Att X Media X Invol	1	.0005		
Involvement	1	.0294		
Media Type	1	.2070		
Involvement X Media Type	1	.0638		
Firstcon	1	.0350		
Firstcon X Involvement	1	.7468		
Firstcon X Media Type	1	.8289		
Firstcon X Invol X Media	1	.2986		
Prodcon	1	2.7023		
Prodcon X Involvement	1	.0269		
Prodcon X Media	1	1.2116		
Prodcon X Invol X Media	1	.4145		
Firstcon X Prodcon	1	.0620		
Firstc X Prodc X Invol	1	.0425		
Firstc X Prodc X Media	1	.1834		
Fir X Pro X Invol X Media	1	.0017		
Impor X Media X Invol	1	.1175		
Attitude X Involvement	1	.1619		
Impor X Attitude X Invol	1	.0085		
Importance X Involvement	1	.4217		
Subjects(Fir X Pro X Inv)	170	34.4202		

*In the testing of EIIH6, attribute type importance was a continuous variable consisting of the difference between the two attribute type weights.

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BIOGRAPHICAL SKETCH

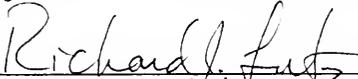
Alice Ann Wright was born January 22, 1958, in Columbus, Ohio. In 1970, as a class project grew into something larger, she testified before a Ohio Senate committee against the inhumane practice of "soring" horses which forces horses to use a unique gait. Months later, she was asked to testify before a sub-committee of the U.S. Congress concerning the practice. Though her main interest in high school was sports, Alice became a National Merit Scholarship Finalist in 1976. In the same year, she was graduated from Columbus School For Girls, a college-preparatory day school, and she enrolled in Wheaton College, a Christian college in Wheaton, Illinois. While there, she competed in national intercollegiate competitions in swimming and tennis. The highlight of her athletic career was being Midwest Regional (6 states) #1 Singles Tennis Champion for small colleges in both 1978 and 1979. In 1980, Alice was graduated from Wheaton with a B.A. in economics.

Wanting a change in climate and a graduate degree in finance, Alice entered the Masters in Business Administration program at the College of Business, Florida State University in Spring, 1982. Because of a fortuitous scheduling problem, Alice changed her major and

was graduated in 1984 with an M.B.A. in general business administration. During her M.B.A, Alice had already shifted her focus more toward marketing and designed a promotional campaign for the Florida State University Artist Series.

Alice was named to the Ohio Steering Committee for the Re-election of Reagan-Bush and campaigned with her father in his successful 1984 election to the Ohio Supreme Court. She started the punishing marketing Ph.D. program at the University of Florida, Fall 1985. Alice has accepted a job at California State University, Long Beach and plans to join the faculty, August 1990. Alice is pleased to embark on a professional career in such an agreeable locale and climate.

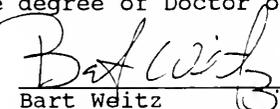
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Associate Professor of Marketing

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Professor of Marketing and
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Associate Professor of
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This dissertation was submitted to the Graduate Faculty of the Department of Marketing in the College of Business Administration and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 1990

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