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THE EFFECT OF PRODUCT EXPERIENCE, INVOLVEMENT AND ATTITUDE-OBJECT-SPECIFICITY IN ADVERTISING ON OVERALL ATTITUDE, ATTITUDE TOWARD THE ACT, AND BEHAVIORAL INTENTION: AN EXPERIMENTAL STUDY

presented by

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has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Mass Media

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Date April 1, 1993

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Mass Media Ph.D. Program, College of Communications
Arts and Sciences

1993

ABSTRACT

THE EFFECT OF PRODUCT EXPERIENCE, INVOLVEMENT AND ATTITUDE-OBJECT-SPECIFICITY IN ADVERTISING ON OVERALL ATTITUDE, ATTITUDE TOWARD THE ACT, AND BEHAVIORAL INTENTION: AN EXPERIMENTAL STUDY

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Multi-attribute attitude models have been common in studying the impact of persuasive communications on attitudes toward products. An assumption of many multi-attribute attitude models is that attitude formation is a reasoned process, and belief change precedes attitude change. If one accepts this view then multi-attribute models should provide a means for diagnosing the impact of persuasive communication on attitudes by way of the impact on the component beliefs.

A substantial body of evidence supports the relationship between beliefs, attitudes, and behavior. However, evidence supporting a causal relationship between belief change and attitude change for consumer product attitudes is slight. In addition, a notable challenge is emerging from recent research into cognitive structure and the process of concept formation and categorization. These alternative explanations are consistent with schema-theoretic principles, and suggest that overall product knowledge is used as a framework to evaluate an object as it is portrayed in advertising. Alternative portrayals can

involve varying message contents to depict attributes that are shared among products in a category or depict attributes that are specific to certain products. It can also involve variation in the situations that are portrayed. This is called the attitude-object-specificity in advertising. Studies based on schema-theoretic principles suggest that the degree to which the attitude-object-specificity in advertising is consistent with overall product knowledge will impact the evaluation of an object, without necessarily changing specific beliefs about the product.

An experiment was conducted where subjects were exposed to manipulations with varied levels of common or unique product attributes, and varied product usage situations. This provided the basis to test the effect of attitude-object-specificity, portrayed in advertising, on attitude toward the object, attitude toward the act, and behavioral intention, and the degree to which these effects were consistent with multi-attribute or alternative models of attitude change.

The results of this study are inconsistent with a multi-attribute view of attitude change. The results also provide partial support for hypotheses derived from research on cognitive structure and categorization. These findings support alternatives to a multi-attribute attitude model.

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CHAPTER I: PURPOSE AND SIGNIFICANCE

Introduction

In marketing and advertising there is substantial interest in the impact of persuasive communication on the attitudes consumers have toward products. The interest is based on the assumption that attitudes mediate consumer behavior, particularly brand choice. The study of the impact of different message strategies on product attitudes is often approached from a cognitive perspective. Multi-attribute attitude models are common in theoretical research, and most practical copy testing methods include measures of discrete brand attribute beliefs.

Substantial empirical evidence supports the relationship between beliefs, attitudes, and behavior.[1] This evidence is also used to support the view that attitudes are a function discrete cognitive structures, e.g., of salient beliefs of an object's attributes, and that attitude formation is a reasoned analytic process. Despite support for multi-attribute attitude models substantial challenges are emerging. Research in cognitive structure, attitude organization, and concept formation and categorization offer alternatives to analytic processes of product evaluation and attitude formation.[2] Several alternatives to multi-attribute models are consistent with schema-theoretic concepts. There are many definitions for schema. However, it is useful to think of them as "hypothetical cognitive structures that

integrate information into a more cohesive and directional organizational unit."[3] A schema can contain knowledge about events as well as about objects. A script is a type of schema where the organizing theme is a repetitive event.[4]

Arguments in favor of specific schema theories are not critical to this study. The critical concern is the degree to which advertising information processing involves integrated as opposed to discrete cognitive structures, and the directive aspect that integrated and organized knowledge has on information processing activity. Schema-theoretic research suggests that variation in message content may interact with the overall representations in memory to evoke alternate processes of attitude formation and change. Studies in categorization and memory organization suggest that the consistency between an object's portrayal in advertising and its representation in memory may influence the nature of the response to the message, and the ability of the message to influence attitude change. In contrast, a multi-attribute view of attitude change suggests that the impact of a message results from the provision of information that influences discrete salient beliefs, which combine to form an overall evaluation. The alternative models may suggest different directions for the content and efficacy of a persuasive message.[5]

The purpose of this study is to examine experimental evidence to determine whether the results support a multi-

attribute model of attitude change or an alternate model that is consistent with schema-theoretic predictions. By varying the attribute information and the situational context in a message the attitude object is specified. We call this variation in content the attitude-object-specificity in advertising. Varying an object's specification provides a basis for testing a multi-attribute attitude model due to the provision of information about the discrete attributes of an object. Further, the specification of an object may or may not be consistent with the integrated structure of an object's representation in memory. Therefore, attitude-object-specificity provides a means to test predictions derived from studies on categorization, cognitive organization, and schema-theoretic concepts.

Multi-Attribute Models in Research on Persuasion

To test the relationship between beliefs, attitudes, and behavior, marketing researchers have pursued studies where attitudes have been measured with multi-attribute attitude models. Among multi-attribute attitude models Fishbein's is the most widely cited. According to Fishbein and Ajzen an attitude refers to a person's evaluative and affective feelings toward an object. Further, attitudes are a function of the salient beliefs about that object.[6] The relationship between beliefs and attitude is specified by the equation in Figure 1.1, below.

$$A_o = \sum_{n}^{1} b_i e_i$$

where:

b_i = the strength of the association between the attitude object and the salient attribute.

e_i = the evaluation of the i^{th} salient attribute

A_o = the overall evaluation of the attitudinal object.

n = the number of salient beliefs about the object.

Figure 1.1: The Fishbein Multi-Attribute Attitude Model

When used in marketing the attitudinal object, (A_o), is the product being considered. Fishbein's Model is equally appropriate for attitudes toward specific acts, such as product purchase or consumption. An attitude, particularly attitude toward an act, is assumed to influence behavioral intentions.

Several processes for integrating beliefs into an overall evaluation have been proposed. Fishbein's model assumes a linear-compensatory integration rule, where favorable attribute scores are offset by unfavorable ones. Other rules for integrating attribute beliefs into an overall evaluation have been proposed. Most of them suggest that attitudes are the outcome of thoughtful consideration of attribute information. According to Fishbein's model a change in attribute beliefs should precede a change in an individual's attitude. Belief-attitude relationships have

been demonstrated in cross-sectional studies. Correlations as high as 0.70 have been reported in marketing studies.[7]

If one assumes that belief change is the essence of persuasion then concern should focus on the impact that message factors play on attention, comprehension, and acceptance of the discrete attribute information. This has been a dominant paradigm in the research into the effects of persuasive communication. Some mechanical factors have been linked to response. For example, the color and size of print advertisements have been shown to influence attention processes.[8] However, the study of factors such as humor, comparative advertising, or use of celebrity presenters, has lead to equivocal results.[9]

The failure of studies to produce consistent results could be due to any number of factors. They may include inconsistent manipulations or measurement problems. However, a more fundamental conceptual concern involves the question of whether brand attribute beliefs are the sole mediator of brand attitude. Experimental studies have shown that belief change accounts for only part of the variance in attitude change. Experimental evidence supporting a causal-mediating effect of beliefs on attitudes, in marketing contexts, is slight.[10] Many studies that report significant correlations between beliefs and attitudes have dealt with topics such as religion, race, or politics. These topics may be ego-involving, and engender more interest in, and thought about,

a message. This could lead to beliefs and attitudes that are highly consistent. A primary issue within marketing is whether such thoughtful processes of evaluation apply to the more mundane aspects of consumer behavior.

Alternatives to Multi-Attribute Models

Research in the areas of cognitive structure, the representation of attitudes, and categorization offer alternatives to analytic processes of product evaluation and attitude formation. These alternatives are consistent with schema-theoretic concepts, where knowledge is organized and integrated around a domain that is relevant to consuming a product rather than the specifics of that product.[11] Smith and Houston have discussed how product knowledge can be organized around a typical sequence of consumer action.[12] Cohen and Charkavarti have noted that people often think about brands in relation to a product category.[13] The notion of integrating and organizing themes in consumption suggests that knowledge of brand attributes cannot be treated as discrete and independent components that can be reliably manipulated in order to influence the overall evaluation of a product or brand.

When information is specified in an advertising message it will achieve a certain degree of consistency or inconsistency with the various schema, or cognitive organizations in memory. Sujan has shown that when product attribute information is consistent with category experience

schema consistent processes will mediate consumer evaluation.[14] For example, a person may see "fruit as a typical snack," and may "typically snack late at night." However, they may not see "fruit as a typical late night snack." An advertisement that claims fruit is an "ideal late night snack" may be inconsistent with product knowledge, and fail to evoke the schema-consistent dynamics that can reinforce an object's evaluation. A failure in persuasion could occur despite the presence of information on a potentially valued attribute.

Alba and Hasher have noted that the problem with schema explanations is that alternative processes are not always ruled out.[15] Researchers studying schema-dynamics do not deny that attribute based processing can impact an object's evaluation. They are careful to point out that when a person encounters information that is discrepant from experience that schema-based processes become less likely, and attribute by attribute processing is more likely.[16] A multi-attribute model of attitude would be supported if the information in a message modified beliefs, with a corresponding change in overall evaluation.

A primary interest in the study of schema-dynamics is identifying the conditions under which one of the two alternative models, attribute by attribute or schematic, provides the more plausible explanation for communication effects. The importance of distinguishing between the

alternative processes is that message content and prior product experience may act together to mediate the process that is evoked.[17] If an attribute by attribute processing strategy is evoked integrating the information into an overall evaluation may require active processing. If there is a high probability of active processing message content can be directed toward specific target beliefs, and message design should focus on structuring content to insure comprehension and acceptance of information. However, if attribute processing is invoked when active processing is unlikely the individual may fail to arrive at an evaluation.[18] When the likelihood of active processing is low a message should be structured to provide a sufficient degree of congruence with existing experience in order to evoke, almost automatic, schema-driven referral processes.

Applications and Implications

Advertising often involves selective presentation of information about one or few product attributes. Advertisers may select attribute information in order to establish product positions. Product positions may also be established when advertisers adapt "the content of their marketing communications selectively, in order to establish a special association between their brand and one or more aspects of the product-use situation."[19] One approach toward selective presentation of brand information is the unique selling proposition. This approach focuses on a single attribute,

benefit, or situation that differentiates the product. The alternative extreme is to present common attributes in order to make a non-differentiated claim of category membership. Common attributes provide the most valid cues to category membership.[20] Product portrayals that feature common attributes are most likely to lead to an identification of membership in a specific product category.

Creating a product position requires the presentation of the appropriate advertising content. However, it also requires that appropriate processing occurs. It is important to remember that schema theories indicate that message content and prior product experience may act together to mediate the nature of the mental processes at the time of advertising exposure. In the case where message content is based on specific attributes or situations the message may be incongruent with the cognitive structures of a large proportion of potential consumers. This may result in an ineffective message to all but a small market segment. In the case where the message content deals with common attributes or situations the message may not provide a basis for preferential evaluation. In either case leverage may be lost. If leverage is gained from specific versus general executions there is a practical tradeoff. The costs of producing and testing multiple creative executions, commercial integration, and loss of exposure frequency for any execution can be substantial. To assess the tradeoff a

manager must have an indication of when leverage is gained or lost by being relatively specific.

Research Problem

The research problem is to ascertain whether systematic manipulations of content, the attitude-object-specificity portrayed in advertising, will result in outcomes that are consistent with schema-driven processes or multi-attribute models of attitude. If multi-attribute models of advertising effects are correct then the manipulations should create differences in attribute beliefs based on the differences in attribute information they contain. Further, the variation in beliefs should account for a significant part of the experimentally induced variation in overall brand attitudes. However, if the predictions based on schema-theoretic principles are supported then an alternative to a multi-attribute attitude model would be supported.

For this study attitude-object-specificity encompasses two different message cues. The first cue is based on attribute specificity. By this we mean that attributes in advertising can be common among category members, or unique to specific objects within the category. The second cue is the situation. Situations can be portrayed so they are similar to experience or dissimilar to experience. A situational portrayal can also be absent from advertising. Information that is congruent along either dimension should increase the likelihood of schema-driven processing.

An extension of this research problem comes from the fact that our interest in attitudes is based in the assumption that attitudes mediate behavior. A large part of the research in persuasive communication has been aimed at changing the overall attitude toward a target object. However, research into the attitude-behavior relationship suggests that attitude toward the act of consumption is a better predictor of behavior. Despite this relationship many studies have focused on the correspondence between a multi-attribute index of attitude toward the object, and a direct index of attitude. If a direct index of attitude is to be useful its ability to predict behavior must be high, relative to a multi-attribute index of attitude toward actions. This study includes a test of the predictive efficacy of overall attitude relative to attitude toward the act of consumption.

Plan of Study

The presentation of this study is organized into five chapters, the first of which is this introduction. Chapter two provides a framework for investigating the impact that attitude-object-specificity portrayed in advertising has on attitude. Chapter three will present and justify the methods utilized in this study. Chapter four will present and discuss the results. Chapter five will present conclusions, limitations, and suggestions for future research.

An experiment to test the general and specific hypotheses was conducted in three phases. The first phase involved a free recall investigation to identify attributes that are common and unique to the snack food category. The second phase involved the exposure of manipulations, based on varied levels of attribute specificity, to determine whether perceptions of typicality or uniqueness were preserved in the manipulations. The final phase exposed subjects to manipulations with varied levels of common and unique attributes, as well as varied situations, in order to test the degree to which attitude-object-specificity, portrayed in advertising, impacts attitude toward the object, attitude toward the act, and behavioral intention, and the degree to which these impacts are consistent with multi-attribute explanations of attitude change, or alternative models.

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CHAPTER II: LITERATURE REVIEW

Introduction to Attitudes

Background: Past Perspectives on Attitudes

Within the marketing literature there is ample use of the term attitude. Attitudes are often discussed as if the concept has been well defined. However, there is substantial diversity in the definitions within the literature.[1] Some diversity can be expected if one examines the history of the term. Attitude was first used outside psychology to designate the position of the artist's subject with respect to its background. In psychology the term first expressed a person's mental relationship to surrounding factors, or the relationship of individuals to socially significant objects.[2]

With the influence of operationalism in the 1920's and 30's attitudes became what attitude scales measured. In addition, the rise of behaviorism linked attitudes to response consistency. Within these frameworks inquiry in psychology adhered to the study of observable phenomenon.[3] The development of coherent definitions suffered due to a disposition to deal with the periphery rather than the central mental issues of psychology. A lack of a consensus is seen by the fact that Allport's 1935 review cites over fifty definitions.[4] According to Allport's own definition attitudes are: A mental or neural state, of readiness to

respond, organized, through experience, and exerting a directive and dynamic influence on behavior.[5] It is interesting that the five aspects of Allport's definition are still central to the continuing debate regarding the nature and scope of attitudes.

Points of Contention in Defining Attitudes

Despite the continuing debate there is some convergence on the issues noted by Allport. Recent accounts primarily view attitude as a mental construct. This is indicated through terms such as "judgement" or "evaluation" to characterize attitudes and attitude formation.[6] For example, McGuire defined attitudes as a "mediating process to behavior in the form of a mental evaluation of an attitudinal object".[7] While mental processes rely on neural activity the view of attitudes as a neural phenomenon is not widely embraced.[8] This is due to the fact that few reliable neuro-physiological indicators for attitudes have been developed. However, recent studies in the physiological measurement of affect indicate the potential for advances in this area.[9]

Despite agreement that attitudes are mental in nature there is less agreement on several issues central to delimiting the construct.[10] Primary arguments revolve around the nature of the mental components of attitudes. One difference is implied by the term evaluation as opposed to judgement. The term evaluation is primarily associated with

Osgood's work on psychological meaning. According to Szalay and Deese "psychological meaning describes a person's subjective perception and affective reactions."[11] The use of evaluation suggests that attitudes are affective in nature, and may direct attention to affective processes in attitude formation. In contrast the term judgement is often associated with psychophysical stimulus scaling methods of Guilford.[12] Responses required by Guilford's methods are typically assessed as true or false.[13] The term judgement may direct attention to analytic and reasoned processes of attitude formation and change.

Another point of contention involves whether attitudes direct behavior, or also energize it. If attitudes energize behavior then one must assume that the study of attitudes includes the study of motivation. However, Katz's view on the functional role of attitudes has been useful in helping to distinguish between attitudes and motivations. Katz suggests that attitudes provide one condition for action. For example, liking ice cream would be considered a necessary condition for its voluntary consumption. However, liking is not a sufficient cause for action. Therefore, attitudes are related to decisions and choices within a stream of behavior rather than what gets behavior going.[14] Despite agreement that the study of attitudes does not subsume the study of motivation there has been recent interest in the attitude-motivation relationship. A large

part of this interest is based on McGuire's speculations on how factors that instigate behavior impact the attitudes that surface during that behavior.[15]

There is also agreement that attitudes are learned. However, the mechanisms by which they are learned require assumptions about how they are represented in memory. Recent reviews emphasize a structural view.[16] A critical aspect of the structural emphasis is the attention given to alternative representations of attitudes, and their implications for attitude formation and change. The traditional model is consistent with a propositional representation, and measurement by means of a multi-attribute attitude model. Recent alternatives suggest representations of attitudes that are consistent with schema-theoretic concepts. In this latter case knowledge is organized around categories of objects and types of experience, not discrete aspects of objects or events.[17]

Despite the unresolved questions the fact that attitudes are viewed as mental constructs, represented within memory, suggests reasonable approaches for further research. The study of attitudes requires indirect measurement and integration into a framework of associated mental constructs. This requires a model that specifies how general knowledge is represented in memory.

The Representation of Object Knowledge

Network Theories of Memory

Many psychological inquiries deal with topics that are peripheral to the actual workings of the mind. This is likely "because it is easier and safer to stay close to the external reality where the relevant variables are easily accessible and their means of measurement are determined by our colleagues in the physical sciences."[18] This course of events has resulted in few attempts to specify the representation of general knowledge. Despite the modest number of attempts there are several constructive proposals of an entire working system. These are generally subsumed by network theories.[19] The most widely accepted network theories are Quillian's account of the semantic network and Anderson and Bower's representation of associative memory.[20] Both accounts argue that objects of thought are represented as nodes that depict the contents of memory. Associations between the nodes specify the structure of memory.

A recent alternative to these accounts has been proposed by Srull and Wyer.[21] They model memory as a series of "referent bins." Each bin contains episodic and general knowledge about a topic or object. This knowledge integrates into an entity that is processed in an all or nothing manner. Some major differences between associative memory, semantic memory, and referent bin theory involve the mechanisms of retrieval and storage. However, each theory

reduces general knowledge to network relationships. Therefore, the theories are not incompatible.[22] The theories suggest similar outcomes when a specific object of thought is the focus of processing activity. They also suggest similar mechanisms for attitude formation and change, and the impact of this change on behavior.

Because most models of memory are based on network conceptions it is important to understand network models. There are two aspects to any network model, the content and the structure. The contents of memory are conceived as nodes. Nodes, in an associative network, represent objects or characteristics of objects or events. For example, a node for the color red may be associated with a node for an automobile. While we often think of knowledge in terms of factual information much of what we know is subjective. This has lead theorists to discriminate nodes in terms of their denotative and connotative content.[23]

Denotative nodes represent tangible objects or concrete knowledge about properties of tangible objects. For example, a car is a tangible object and is associated with concrete properties such as color, length, and weight. Denotative nodes represent factual and verifiable knowledge about objects. The statement "the car is red" can be independently verified. In contrast, connotative nodes represent feelings, evaluations, or personal relevance associated with an object. A car can be exciting. Connotative nodes are the

result of internal mental responses that are deemed correct or incorrect only in the mind of the auditor. Their content cannot be independently verified.

Network theorists make the denotative/connotative distinction. However, the cognitive/affective distinction is also common. Denotative and connotative nodes can be associated with cognitive and affective properties. However, connotative nodes do not always result from affective processes, and may not contain affective content. For example, connotative content can involve abstraction to super-ordinate artificial categories that are affectively neutral. In addition, concrete content can be associated with affect. Subsequently, the denotative/connotative distinction is a less restrictive way of examining the contents of memory than the cognitive/affective distinction.[24]

Network models that distinguish connotative and denotative contents, and accommodate their relationships, are becoming increasingly important in marketing and advertising. Conceptions of product knowledge which include more than verifiable facts are becoming important for explaining variance in consumer response.[25] When individuals discuss the meaning attached to objects they often speak in terms of psychological reactions rather than tangible attributes. A car has 250 horsepower and is red, but it is also sporty and fun. Objective and subjective knowledge,

taken together, show more promise for explaining behavior than either alone. The interest in knowledge and the relationship between facets of knowledge has lead to several proposals about the nature of attributes and attribute relations, and their role in product evaluation and choice.

Products and Attributes of Products

A common theme in consumer behavior is to view products as bundles of attributes. Practical perspectives, particularly those involving product development, may regard attributes as concrete properties.[26] Concrete attributes are manipulated in the production of a tangible product. For example, an auto-maker may bundle attributes like an air bag and anti-lock brakes. It is assumed that concrete attributes are the keys to preference via product differentiation. This practical view has a theoretical parallel in process tracing research, where information arrays are used to study how consumers use concrete attributes in choice.

In contrast, many consumers are not concerned with what an object is, but what it does. Consumers are concerned with a product's functions and benefits. When speaking of functions and benefits consumers often speak in abstract terms. For example, a consumer may choose a car because it is safe. Concrete attributes are justified as a basis for preference if their presence provides a propositional basis for the abstract quality of interest. Knowledge of concrete

attributes, such as air-bags and anti-lock brakes, may lead to an assessment of safety.

The fact that both concrete and abstract attributes may play a role in product evaluation helps illustrate the value that the connotative/denotative distinction of memory contents has to marketers. Conceptions of associative memory accommodate the different types of attributes quite easily. Within Bower's model an object's attributes can be anything that is true of the object.[27] Despite the extensive accommodation there are problems with network models. First, network models do not provide a clear answer to how knowledge is built up. One cannot assume that the basis for any knowledge representation can be recovered. Curry and Menasco argue that information about the concrete attributes of an object may be processed, but not stored in memory. Concrete properties are altered as "an individual perceives his or her version of green and tastes sweetness according to the abilities of his or her taste buds."[28] While the concrete basis for memory can be lost it is also possible for a concrete basis to be reported when it was not present. Zajonc argued that:

> the disassociation of a preference from its origins is suggested by the fact that when asked about the reasons for preferring one stimulus to another, participants in exposure studies never mention familiarity, subjective recognition or frequency of exposure. Instead they point to the stimulus features.[29]

The inability to recover the basis for a representation is a problem when trying to understand the meanings that are

assigned to nodes in memory. Most network models indicate that the concept "car" is represented by nodes with "car-like" content. However, what does "car-like" mean? Oden argues that individual nodes have no inherent meaning. They attain meaning due to the relations they hold to other concepts.[30] In this sense a car is a process of spreading activation among contents of memory such as wheels and engines. However, process tracing research has shown a great deal of inter-subjectivity in response to fixed sets of attributes. This may be due to different patterns of organization of concepts. Therefore, to understand the meaning of the contents of memory we must know something of its structure.

Attribute Relations and Categories of Objects

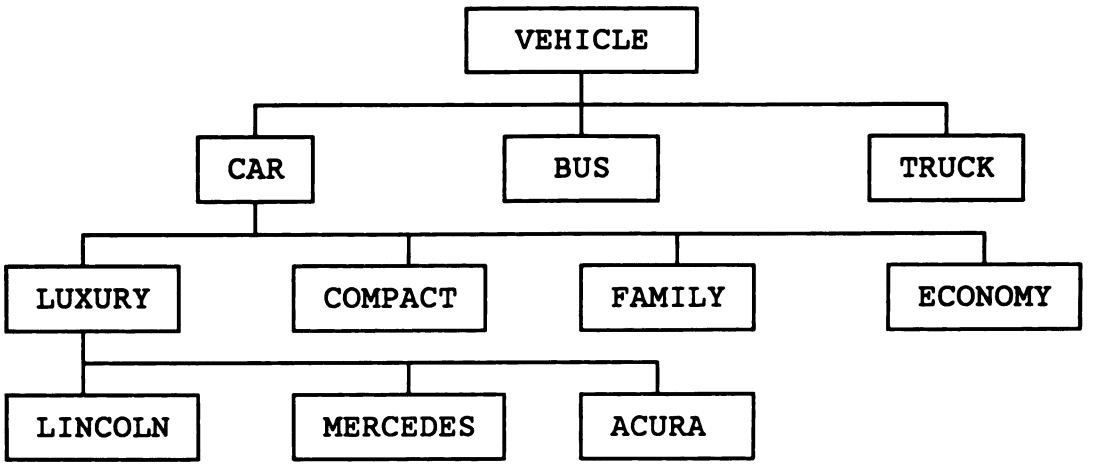
The mental representation of the relationships among product attributes constitutes the structure of product knowledge. There have been a number of proposals to specify relationships between attributes. Benefit segmentation and means-end chains are common schemes within consumer behavior. Both schemes have ample pedagogical value. In addition, sophisticated discussions of means-end chains, such as the one by Peter and Olson, are useful in theory integration.[31] However, a problem with these schemes is the difficulty in formulating clear operational definitions. A problem with benefit segmentation involves clear identification of the benefit. For automobiles is power a

benefit, or is the benefit brisk acceleration? The same problem occurs with means-end chains. The distinctions in a chain are not well defined. Where do consequences stop and desired end states start? Due to these problems construct validation and practical utility suffer. Means-end chains also suggest a uni-directional, concrete to abstract, processing model, which is inconsistent with many theories of learning.

Despite the problems there is evidence that reliable product-related structural representations exist. In order to avoid the problems of means-end chains and benefit segments Johnson suggests an approach drawn from Rokeach's work on hierarchical values. Rokeach proposed three object-attribute relations that impact the nature of the encodings in memory. These are instrumental, reflective, and vicarious relationships.[32] Johnson notes that:

> An instrumental relationship, drawing on Rokeach's terminology, exists whenever a relatively concrete attribute is instrumental in changing a more abstract attribute... Reflective relationships, meanwhile, capture the concrete consequences that result from a change in the level of a more abstract attribute... vicarious relationships capture the perceived covariance among attributes.[33]

Product attribute relationships can be examined by observing how they may function in a product category. Howard utilized principles of categorization, developed by Rosch and Mervis,[34] to group product categories into hierarchies.[35] A hierarchy for the super-ordinate vehicle category is shown in Figure 2.1.



Based on examples by J.A. Howard. The lines of cars have been changed to conform to the current category entrants.

Figure 2.1: The Hierarchical Structure of the Vehicle Category

Within product hierarchies greater inclusiveness often correlates positively with a higher level of abstraction. For example, the concrete attributes of "high mileage" and "low price" may map into a more abstract attribute, "economy." These attributes, common to the category, help to define whether a vehicle fits into the economy-car category. This is an example of an instrumental attribute relationship. Johnson has demonstrated the phenomenon utilizing televisions as the product category.[36] Super-ordinate categories, such as vehicles and buildings, may have little in common with each other. As one moves to lower levels in the hierarchy category members have more in common. Due to common attribute content the term "luxury car" may contain reflective propositional attribute information. Despite the superficial differences luxury cars

may have many attributes in common, including quiet engines, smooth rides, and poor gas mileage. Because these attributes tend to be found together, they share a vicarious relationship. A car with a smooth ride is likely to be quiet. In contrast, unique attributes may not map into super-ordinate attributes or share a vicarious relationship. For example, the presence of a passenger side air bag may be unique, and distinguish between luxury cars.

While there is an abstract to concrete distinction within a product category there are also differences between categories. Johnson and Fornell have found that the importance of abstract attributes in consumer decisions varies with the degree to which the product itself is abstract.[37] Based on this finding the attributes used to describe an abstract category, such as fashion, should be more abstract than the terms commonly used to describe a concrete category such as household appliances.

The concept of product categories is prominent in the consumer behavior literature. However, there has not been a great deal of critical evaluation of the construct or the process of categorization. Two questions remain, what is a category, and what gives rise to categories and category membership? Traditional philosophy has often treated categories as entities with well defined boundaries and precisely defined criteria for membership. However:

> More often than not, the classes of objects encountered in the real physical world do not have precisely defined criteria of membership. For example, the class of animals clearly includes dogs, horses, birds, etc. as members and clearly excludes such objects as rocks, fluids, plants, etc. However, such objects as starfish, bacteria, etc. have an ambiguous status with respect to the class of animals.[38]

If categories do not have clear boundaries then category membership will tend to vary between individuals. This variation often results from the contexts and experiences that lead to an objects assignment to a category. For example:

> eskimos have thirty different names for "snow" doubtless because it is vitally important to them to make fine distinctions while, for us, differences are negligible. Conversely, we call machines which are only superficially different by the names of Fords, Cadillacs, Pontiacs, and so forth, while for the Eskimos they would be pretty much the same.[39]

The fact that category membership varies among individuals suggests that categories are an artificial device used to organize everyday knowledge and experience. This is certainly consistent with the way categories are used in the consumer behavior literature. In the psychological literature this is akin to intentional representation. An intentional representation is based on that which one must know in order to know what an object is. Intentional representations are:

> not static structures with fixed referents and permanent linkages to the world they represent. Rather, the intentional basis of concepts allows them to be constructed, amended, and tuned "on the fly" as the needs of the concept-holder and the demands of the task require"[40]

If a representation is based on intentionality then one must find the basis of the intention. Barsalou has shown that understanding intentional representation requires us to know the goals that objects, within categories, serve.[41] The importance of goals in defining a category has been shown by Roth and Shoben. They demonstrate that a category can change dramatically simply by changing the goals of subjects in an action sequence.[42] As contexts change the defining characteristics also change. A major principle that governs category inclusion is the degree to which members share a functional, goal-related, core structure, a schematic theme, which becomes salient in contextually similar episodes. This is often referred to as a family resemblance.[43]

There are several proposals for the process by which an object is assigned to a category. Two are most frequent in the consumer behavior literature. The first is an analytic process. In this case information about an object is assessed on an attribute by attribute basis. The weight of an attribute in the classification process is typically a function of its frequency within the category, i.e., the extent to which it is common among members of the category.[44] The second is a non-analytic process. It involves matching overall concept information from memory with a perceptual pattern. Within the categorization literature the patterns in memory are frequently called prototypes. Within marketing and consumer behavior they are

often called schema, a cognitive structure that integrates information into cohesive units. Although there are a substantial number of schema theories they typically agree that concept retrieval depends on activating the entire associative network that defines a concept, and concept comparison depends on perceived overall similarity.[45]

Schema and analytic explanations are not incompatible. In both cases category members are judged on prominent features and common attributes.[46] While schema theories emphasize integrated structures there is little to suggest that the individual representations that go into the schema are lost. It is also difficult to show that activating discrete items of information in an associative network would not provide results consistent with schema theories. Some extreme arguments for integrating schema and network theories suggest that all schema are developed from specific information as needed.[47] The compatibility of such approaches in terms of similarity judgements and categorization has been established for super-ordinate categories such as furniture and vehicles, and for concrete categories such as chairs and cars.[48]

The family resemblance approach does not provide a precise model of the process of category formation. In addition, several objections may be leveled at the idea of intentional representation and its extension to family resemblance. The first is with the notion of intentionality.

In order to understand what it means to intend it is necessary to know what it is to get what is intended.[49] This is not a problem with many simple behaviors. For example, if one intends to buy a quart of milk it is not difficult to determine whether they have acted on their intentions. However, in situations where goals are not well specified, such as symbolic consumption, this may be problematic.

When goals or intentions are poorly defined the common attributes that define category membership may be poorly defined. For example, the goal "to lose weight" means different things in different contexts. To an athlete it could mean reducing body fat while maintaining muscle mass. To a college student it could mean improving appearance. This results in ad-hoc complex categories such as "foods to eat on a diet." Where goals are varied there may be no common attributes to define a category. Therefore, indicators of family resemblance may not be useful due to the difficulty in developing logical product groupings.[50]

If persons have no goals regarding an object they may be willing to have the criteria for classification imposed. For example, the schemes used to classify wine are most likely related to the goals of serious producers and consumers of wine. To beer drinkers all wine may be fairly similar. Therefore, they may accept an arbitrary classification scheme. This is extensional representation, a listing of things that are instances of the category.

Meaning by extension creates an interesting problem in consumer behavior. How is the basis of any extension related to consumer choice? This question may have been dealt with by Murphy and Medin. They suggest that categorization involves the formation of theories.[51] The theories are identified by belief systems about the nature of objects within the scope of general behaviors. In the wine example, above, an infrequent consumer may accept the opinions of a frequent consumer, if only to facilitate social interaction. Therefore, some degree of intention is involved in the behavior.

Despite concerns about the use of ad hoc categories in analyzing consumer behavior concepts such as product typicality have been linked to consumer behavior variables such as brand recall and preference.[52] Any problem with the concept of a product category may not be with the concept itself, but how far one is willing to extend it. Many categories lack definite criteria for membership. Therefore, where does one category stop and another begin? A useful answer may not be in defining the boundaries, but in examining the central tendencies. The central tendencies of product categories appear to provide the most useful perspective for understanding consumer behavior.

The most typical category members are often called prototypes.[53] Typical category members tend to be named first in free recall tasks, and are perceived to be most

strongly associated with the common attributes that define category membership. Typical category members are often used as cognitive reference points in comparison. Therefore, typical members influence whether an object is included in a category.

In contrast non-typical objects may be weakly associated with common attributes, and may possess attributes that are unique to the category. Unique attributes may be shared with objects in another category. If category members share attributes they share nodes in an associative network. There is potential category overlap.[54]

Within categories we often find that concrete attributes map into abstract attributes of super-ordinate categories. Associations may intensify to the degree that several nodes evolve into a single cohesive concept.[55] For example, sports cars are associated with attributes like good handling and fast acceleration. The attributes taken together provide the general theme for the product category. General themes used to organize specific knowledge are often referred to as schema.

There are a number of definitions for a schema. Here it is useful to think of it as a "hypothetical cognitive structure that integrates information into a more cohesive and directional organizational unit".[56] While importance is placed on structural factors the critical part of this definition involves the directive aspect that integrated

knowledge has on information processing activity. A schema can act as a framework, evoked by a context or meaning cue, which serves as a perspective for attending to and interpreting information.

While product categories are frequently used as a central theme for consumptive knowledge, Park, Feick and Motherbaugh have shown that much of our consumptive knowledge is organized around situations and experiences.[57] Smith and Houston argue that situational knowledge is often organized into scripts.[58] Scripts are a type of schema where the central organizing theme is a repetitive event rather than an object. Scripts contain knowledge about component actions, and a temporal sequence. In a fashion similar to categories scripts may exist in a hierarchy. Specific component actions may be typical of more general scripts, or may be unique to specific scripts. Both schema and scripts may be associated with an evaluative dimension or attitude.

Attitudes Within an Associative Network

If knowledge of an object is represented in network structures then a critical issue becomes how to discriminate attitudes from other mental representations. Further, how are attitudes related to other mental representations, such as categories, and what impact do they have on each other? One aspect to understanding is identifying the nature of the mental components that comprise attitudes.

Affect, Cognition, and Attitudes

A prominent view is that the fundamental component of an attitude is affect. Katz and Stotland argued that it is the:

> affective component which differentiates attitudinal evaluation and intellectual appraisal... A person may have beliefs and judgements about various objects of his world, but these are not attitudes unless an attribution of good or bad qualities accompanies the specific belief.[59]

Despite the frequency of views where affect is essential to attitude there are strong arguments that affect is not all there is. One could argue that good or bad qualities are independent of affect. An overdrawn bank balance could be judged bad, yet one might feel no affect. In addition terms such as liking, affect, or evaluation are often used without reference to the literature on affect or to Osgood's notion of evaluative meaning. Affect is a term that is used loosely. It can be difficult to know exactly what is meant by affect.[60]

Despite the ambiguity in the literature many studies support a strong relationship between affective measures, such as Osgood's Semantic Differential, and behavioral prediction. Several studies indicate that including cognitive components in attitude models fails to result in better behavioral predictions.[61] Evidence supports the view that the primary reaction to an object is affective. Cognitions tend to occur later in time, and may be post-affective rationalization.[62]

In contrast, several theories stress the importance of cognition, and view attitudes as a multi-dimensional construct.[63] Multi-dimensional models take two forms: A bi-component model which includes cognitive and affective components, and a tri-component model composed of cognitive, affective and behavioral components. Claims that attitudes are multi-dimensional are based on conceptual arguments and empirical evidence. In contrast to unidimensional models some studies support the inclusion of cognitive components, and their contribution to behavioral prediction. It is argued that empirical evidence for a unidimensional model is due to a lack of rigor in methods.[64] Concrete attributes can become affectively charged if they are perceived concurrently with an affective reaction. The result is high covariation between cognitive and affective components in memory, including attitudes. Therefore, it is necessary to subject data to rigorous analytic methods. Baggozi and Burnkrant reanalyzed data from which previous conclusions of unidimensionality were drawn.[65] They used more sophisticated methods of structural analysis, and concluded that bi-component models result in better behavioral predictions.

An objection to the bi-component model is based on the argument that including cognitions is to confuse the process by which objects are classified with the process by which they are given value and meaning. The same objections hold for the tri-component model. Frese and Sabini claim that the

tri-component model obscures the attitude-behavior relationship and fails to discriminate an object's attributes from situational characteristics that lead to attribute salience.[66]

Chaiken and Stangor argue that unidimensional or bi-component models may be correct, depending on the situation.[67] Zanna and Remple attempted to reconcile arguments for either model by defining attitudes as a unidimensional appraisal of an object where affect, cognition, and behavior are three types of information upon which attitudes are based. Further, the information that predominates will vary from situation to situation. A key aspect of Zanna and Remple's definition is their use of the term evaluation in a way that is much different from Osgood's notion of evaluative meaning. Zanna and Remple indicate that an evaluation is an assessment of the suitability of an object for a purpose.[68] Tesser and Shaffer argue that this definition provides a dynamic view that accomodates many attitude models that appear in the literature. Zanna and Remple's definition allows for the associating an evaluative dimension to a specific attribute of an object, to the object as a whole, or to a representation of a class of objects, (e.g., a schema).[69]

Zanna and Remple's view is also supported by Zajonc. Some evaluative processes are affective, and do not require feature analytic information. For example, enjoying a good

wine does not require analysis of its component features. Simply liking the experience is sufficient. In contrast there are instances where attitudes and behavioral mediation may be entirely cognitive. For example:

> If some authority such as Consumer Reports prints a very favorable evaluation of an otherwise unknown and unused product... some segment of the population will become favorably disposed to it".[70]

One difficulty in resolving arguments regarding the affective or cognitive nature of attitudes involves the measurement of affect. In many cases cognitive aspects of evaluation could explain more variance in related behaviors due to errors in measuring affect. If measurement error exceeds the substantive explained variance the inclusion of affective components could decrease prediction, even if the model is correctly specified. Because affect is defined as a subjective response it will resist efforts at objective measurement. Due to these difficulties many approaches in marketing and consumer behavior have focused on cognitive structure, and the relationship between beliefs, in a multi-attribute attitude model, and behavior.[71]

The Multi-Attribute View of Attitudes

It is often assumed that the evaluation of objects, and categories that subsume them, can be represented in a multi-attribute structure. The value of multi-attribute models to theory development is that they make the relationship between beliefs, affect, and behaviors explicit. Many models

are expectancy-value formulations. Expectancy-value models are based on subjective-expected-value theory and on Katz's functional approach to attitudes.[72] Rosenberg argued that affect and behavior toward an object are "accompanied by a cognitive structure made up of beliefs about the potentialities of that object for attaining or blocking the realization of valued states".[73]

Of all expectancy-value formulations the most widely cited is Fishbein's. Fishbein proposed that:

> (1) an individual holds many beliefs about any given object, that is many different characteristics, attributes, values, goals, and concepts are positively or negatively associated with any given object; (2) associated with each of these 'related objects' is a mediating evaluative response - an attitude; (3) the evaluative responses summate; (4) through the mediation process, the summated evaluative response is associated with the attitude object; and thus (5) on future occasions the attitude object will elicit this summated evaluative response-this attitude... According to the theory, then, an individual's attitude toward any object is a function of (1) the strength of his beliefs about the object and (2) the evaluative aspects of those beliefs.[74]

Expressed Algebraically Fishbein's Model is:

$$A_o = \sum_{1}^{n} B_i a_i$$

where:

A_o = Attitude toward the object

B_i = the strength of belief i about the attitude object o, the probability that the object is related to some attribute.

a_i = the evaluative aspect of B_i, that is, the evaluation of its goodness or badness.

N = the number of beliefs.

A primary assumption of Fishbein's model is that the attributes represent the dimensions of product experience relevant for the specific decision. This assumption is common among multi-attribute attitude models. When evaluating a vehicle an individual may prefer a car to a truck, because the truck has stiff springs and a harsh ride. However, when persons choose between trucks they may prefer stiff springs, because they do a better job of carrying a heavy load. The attributes of "ride quality" and "load capacity" become salient in different situations. This means that there is not one attitude about an object, but the potential for several. The attitudes or beliefs that become salient will depend on the situation.

Attribute salience also depends on the level of abstraction which is relevant.[75] For example, a favorable attitude toward a designer garment is not based on the fact that its fabric has 36 threads per inch, but on the perception that it is stylish. Decisions involving categories that provide abstract benefits utilize abstract attributes. Decisions involving products that provide concrete benefits tend to utilize concrete attributes.

Part of the value of multi-attribute models is they can accommodate a concrete or abstract basis for evaluation. Greenspan provides accounts where evaluations of situations could be predicted from ambivalent emotions based on the weighing the emotions in a multi-attribute model.[76] Ahtola

has shown how multi-attribute models can be adapted to accommodate attributes related to hedonic and value expressive consumption.[77]

A large part of the research in marketing and persuasive communication has been concerned with attitudes toward objects. However, the multi-attribute model is capable of indexing attitude toward an act. In the case of attitude toward an act the belief strength, B_i, is the strength of belief about the probability that the object is related to some consequence.

The typical multi-attribute attitude model specifies that attribute scores are summed to provide a measure of overall attitude. This is known as the linear-compensatory model. The model suggests that a low score on one salient attribute is offset by a high score on another. However, there is substantial evidence that attitudes are not always formed by a summation process. Several alternatives have been studied. The conjunctive model assumes that persons evaluate objects in such a way that each salient attribute must meet a minimum criterion. The lexicographic model assumes that objects are evaluated in order of their most important, (salient), attributes until an advantage is found. Disjunctive models assume that persons evaluate an object favorably if it performs in a superior fashion on one or more attributes. The relational model assumes that brands are preferred if there is balance between the attributes.

Objections have been voiced to each alternative. For example, balance, in a relational model, is often described by physical metaphor. However, the psychological meaning of balance is less straightforward. Despite objections there are useful interpretations. For example, anecdotal evidence for the relational model is seen in the context of environmental marketing. An individual may have a favorable evaluation of a detergent that is believed to be environmentally safe, but not best at cleaning.

Alternatives to Multi-Attribute Models

Despite evidence supporting a multi-attribute view of evaluation many tests of alternative models fail to prove if attitude formation is an analytic process. Formal measurement situations may result in demand artifacts that entice respondents to state beliefs in order to justify attitudes rather than reveal the real basis for the attitude. A good fit to a specific model of attitude does not necessarily validate it:

> the application of a computational rule may often give the right answer... because such rules are so robust: people, we are not surprised to learn, tend to prefer products with desirable qualities. Yet such rules may not reflect how the individual actually goes about arriving at his/her overall evaluation of the product. The existence of alternative processes must be examined, particularly given evidence for simplifying rules in evaluation."[78]

Recent interest in marketing and advertising centers on alternatives to attribute by attribute evaluations. Attention has been given to processes where affective

response, including preference judgements, may be fairly independent of cognition.[79] Attitude formation may occur via affective association with no cognition. Attitudes can also be reinforced through operant processes if past success is linked to a stimulus object.[80] However, serious challenges also come from research into the structure and organization of concepts in memory. Rhine has noted that any time an evaluative dimension is associated with a concept one has acquired an attitude.[81] The evaluative dimensions need not be associated with specific attributes or consequences in order for the attitude to exist. Instead, the evaluative dimension can be associated with the overall configuration of the object or a category of objects. Cohen has suggested a model where the schema for a product category acts as an "evaluative framework".[82] Schema processing is instigated by the basic cues in a persuasive message. Judgements are based on overall comparison, not piecemeal, feature by feature, comparisons.[83]

The model, described by Cohen, suggests that inclusion in the appraisal process requires that a brand meet criteria for inclusion in a category relevant to the consumer. For example, a consumer may be concerned with the second order attribute of safety in a car. The consumer reviews product information, and if it is consistent with their mental framework for "safe cars" it is included in that category. Evaluations are not associated with individual attributes,

but with the product category. Once the car is included in the category it is associated with the affect that is vested in the category.

The Role of Attitudes in Consumer Action

A large part of the study of consumer behavior is related to identifying the determinants of consumer action. There are many interesting approaches to studying consumer actions. These include: The study of consumer actions and decisions as a function of decision making roles,[84] of lifestyle,[85] and of various decision styles, e.g., the economizer.[86] Despite differences in the variables a common theme is that consumer actions, decisions, and choices are mediated by mental processes. Recent attention is given to the role of knowledge and memory in choice.[87] If choice is defined as action in the face of alternatives then choice requires a process by which suitable alternatives are determined or evaluated. Therefore, it is not surprising that many choice models resemble models of attitude formation, e.g., conjunctive, linear compensatory, etc. Howard and Sheth use the same constructs interchangeably when discussing attitude formation and choice.[88] In a recent review of consumer behavior Cohen and Charkavarti have placed choice and evaluation under the same heading.[89]

Multi-attribute attitude models continue to be widely applied to the study of the relationship between attitude and action.[90] An extension of this research builds on the

behavioral intentions model of Fishbein.[91] For Fishbein the critical step was to identify the determinants of intentions. According to Fishbein's model for the prediction of behavioral intentions:

> an individual's intention to perform a given act is a joint function of his attitude toward performing that behavior (A_{act}) and his beliefs about what others expect him to do in that situation. These normative beliefs (NB) are in turn multiplied by the individual's motivation to comply with the norms (Mc). Symbolically the central equation of the theory can be expressed as follows:
>
> $$B \sim BI = (A_{act})w_o + (NB(Mc))w_1$$
>
> ... The relative importance of these two components, that is, their weights, is expected to vary with the kind of behavior that is being predicted, with the conditions under which the behavior is to be performed, and with the person who is performing the behavior.[92]

In some instances the weight given to normative beliefs and motivation to comply is very low, or zero. In some later specifications Fishbein and Ajzen dropped the motivation to comply with the normative beliefs from the model. Subsequent research has focused on the conditions under which one or the other of these variables will be salient.[93] In many cases involving consumer behavior normative beliefs are not salient.[94]

Concerns about the use of intentions to predict behavior were noted above. Among the most prominent is that understanding intention requires knowing what is considered as having gotten what is intended.[95] This may be a problem with many behaviors, particularly symbolic behaviors. Verbal expressions of intentions involve behavior toward a target

object in a specific situation, and at a specific time. Many behaviors, particularly symbolic behaviors, are vague about the target objects and times. Specifying the elements of behavioral intention is important in the prediction of purchase or consumption because contextual factors often mediate behavior. In order to improve prediction the impact of situational variables on model performance have been studied.[96] It has been shown that contextual referents improve the predictive ability of these models.

A recent review by Sheppard, et al, indicates that the Fishbein Model does a good job of predicting behavior in a wide variety of contexts.[97] However, Sheppard notes this may be biased by non-reporting of unfavorable results. Therefore, a systematic study of situations in which the model fails to predict is impossible. One might assume that prediction is best when there is a strong cognitive basis for attitude. However, Ronis, Yates and Kirscht indicate several areas where attitudes, even those with a strong cognitive basis, will not be influential in guiding behaviors.[98] Many reported cognitive-behavior inconsistencies involve addictive behavior, such as smoking.

An important aspect of Fishbein's behavioral intention model is that attitude is the individual's attitude toward the act "and not his attitude toward the object or class of objects per se."[99] This is in contrast to much of the consumer behavior literature that focuses on the effect that

marketing manipulations have on attitudes toward objects. In the framework of Fishbein's model, the attitude toward the object is distinct from the attitude toward the act. From a means-end perspective attitudes toward objects are based on attributes which lead to consequences. It is the overall value of these consequences, indexed by attitude toward the act, that lead to desired end-states. Therefore, attitude toward the act is closer to the end that one seeks.

A perceived relationship between an object's attributes and consequences should lead to a relationship between the overall attitude toward an object and attitude toward the act of consumption. Further, if an object's overall evaluation is based on its inclusion within a functionally relevant category it should be associated with the consequences of that category. Therefore, a direct measure of overall attitude should be a useful predictor of behavioral intentions. Most studies that include alternative measures of attitude have focused on the relationship between a multi-attribute index of attitude toward the object and a direct measure of attitude toward the object. However, if information about an object is processed in a fashion consistent with schema-theoretic principles, where attribute information is not considered on a piece-by-piece basis, it would not be surprising to find that a direct index of attitude is a better predictor of behavior. No studies were found that include separate measures of overall

attitude and attitude toward the act in order to test their relative ability to predict behavior.

The Role of Persuasive Communication in Attitude Change

Due to the evidence for a relationship between attitudes and actions a primary concern within consumer behavior has been to ascertain the role that persuasive messages play in attitude change. The dominant paradigm of much of this work has been to examine the relationship between message or receiver variables and end-products of communication, e.g., recognition, attitude, behavioral intention. Focusing on events that are peripheral to mental processes has lead to a number of unique theories of attitude change. While each theory accounts for some effects most fail to provide a comprehensive framework which is useful in explaining a wide variety of advertising effects.[100] A more unified approach requires one to recognize that "variables, either environmental or proprioceptive, must work through... (mental)... components if they are to influence attitude."[101] This approach, which focuses on process rather than end-products, is generally known as the information processing paradigm.

There have been many illustrations of the information processing paradigm. Some are useful, some are not. For example, it is not uncommon to speak of human information processing through use of the computer metaphor. The computer may share some processing aspects with the human

mind. For instance both perform input, processing, storage, and retrieval operations. Further, some computer programs have been able to replicate human behavior in the performance of simple diagnostic tasks, (e.g., auto repair). However, there is little evidence to support the assertion that the mechanisms that perform these operations are similar. At best we can assume that certain aspects of the human information processing system are susceptible to simulation in a computer environment. In the performance of simulations we may learn a great deal about the relations between mental constructs, but much less about the actual mechanisms of the mind.

An important aspect of the information processing approach is the extent to which the mind is considered an active information-seeker. This does not indicate that all information processing is deliberate or involves effort. Instead, information acquisition is potentially constructive, and under control of the auditor. Control may be exercised at each of several steps in the information acquisition process.

There are a number of alternative descriptions of the information acquisition process. Many early efforts focused on the acquisition of verbal knowledge. For example, the process outlined by Kintsch and van Dijk proposed feature analysis, lexical analysis, and concludes with text analysis.[102] However, efforts to accommodate different

contexts, and to account for the effects of visual stimuli, have lead to a broad specification, involving: (1) Exposure to stimuli, (2) Processing the content of the stimuli, and (3) Storage, and retrieval in the conduct of future processing.[103] Because the process is under conscious control the focus of a large part of information processing research concerns events that occur in short term memory.

The initial step in the process, exposure, involves the question of how or why one becomes engaged in processing a specific stimulus. Exposure, as the term is used in advertising, often entails incidental activity. The opportunity to be exposed to advertising depends on exposure to media vehicles that carry it. At the time of vehicle exposure a number of physical events limit the potential for advertising to activate sensory and perceptual processes. These include physical constraints such as discontinuous television viewing, the failure to open specific pages in magazines, or interruptions that redirect sensory response. These factors are independent of the information content of an advertisement. However, they are not independent of the overall structure of the media. For example, ads on the inside front cover of a magazine are most likely to be seen. The probability of exposure to an advertisement is related to matters of media placement, not the content of messages. Therefore, it is not part of this discussion.

While exposure is necessary it is not sufficient to

engage mental response. A number of findings have been framed in terms of "mere exposure" effects. However, these findings do assume that some attention to stimulus content occurs. It is commonly believed that producing any lasting communication effect requires the allocation of some minimal mental capacity. Therefore, it is necessary to distinguish exposure, a physical event, from attention, a neuro-physiological response.

All information processing models assume an allocation of some neuro-physiological capacity as the initial phase in content oriented processing. This allocation has gone by several names, including "reflexive attention"[104] or "orienting response."[105] Reflexive attention is characterized by sensory response plus conscious, however brief, acknowledgement that an object is present. This requires some retrieval of the contents of memory, but is an automatic post-sensory processes.[106]

There has been substantial research into characteristics of advertisements that increase the probability of sensory stimulation and reflexive attention. These are primarily physical characteristics such as size or use of color.[107] Interpreting the results is problematic given the bias toward attention that exists in laboratory situations. However, many studies suggest that minimal recognition may lead to communication effects with the potential to impact consumer behavior. For example, brief

attention may enhance certain types of brand awareness. Minimal attention, if repeated, may also lead to some degree of weak affect.[108] However, most processing theories agree that reliable communication effects are amplified by sustained post-sensory processing.

As with other stages of the information acquisition process post-sensory processing has gone by several names. Among them are selective attention, interpretation, feature analysis, and decoding.[109] Within the study of persuasive communication there are two aspects to this problem. First; what factors lead to sustained attention? Second; what is the nature of the process? Norman suggests that sustained attention can be achieved with an optimal level of sensory stimulation.[110] This can be accomplished by using ad content or "advertising elements in a way to pose a change or contrast... and thereby elicit further reflexive attention."[111] However, given that reflexive attention is a recognition response it is unlikely to be linked to effects other than awareness or weak affect. The likelihood of attention can also be increased by presenting content that leads to sustained thought. People are more likely to think about a message if they are given something to think about. This may entail presenting content that has some degree of meaning to the subject. There are numerous perspectives on meaning. These perspectives include processes that involve connotative as well as denotative response. Meaning often

involves identification, such as the recognition that an object is a member of a category that has behavioral relevance.[112] Further, a large part of meaning is a matter of emotional reaction.[113] Emotion may be triggered by perceptions of self-relevance that link characteristics of the stimulus with self knowledge. In either case it is clear that the meaning that is assigned to any stimulus is a direct function of what people already think, feel, and know.

Factors Affecting Sustained Processing Response

Many advertisers are concerned with creating advertisements to "engage" the audience. The extent of post-sensory processing can be critical in the formation and change of attitudes.[114] However, its occurrence does not indicate that a message is being processed in a manner that is consistent with the objectives of the message sender. Further, response seldom occurs in a uniform manner across prospects. This is particularly true in latter processing stages where elaborative or constructive responses result in thoughts that go beyond the information in the stimulus. Therefore, it is not surprising that the literature in advertising and persuasion has focused on the factors that lead to alternate modes of post-sensory and elaborative processing.[115]

Many unique theories of persuasion have been presented. However, most reflect one of two routes to persuasion. The

first, is a "central route" which views attitude change as the result of thoughtful attention to information.[116] This is consistent with a verbal, cognitive tradition of attitude conceptualization and measurement. Effects are assumed to be due the systematic integration of information into an overall evaluative response. The second route is characterized as "peripheral." In this case "attitudes change because the attitude object has been associated with either positive or negative cues."[117]

Several variables have been associated with the likelihood that one or the other of the two routes to persuasion will be engaged. However, two critical factors are the motivation to think and ability to think about an object or issue.[118] The former is often related to the construct of involvement, the perceived self-relevance of an issue or object. The latter has been linked to message complexity, time limitations, and distraction. It is also critically linked to prior product knowledge or experience.

Involvement

While there are numerous perspectives on involvement most definitions are consistent with Krugman's notion that involvement manifests itself in the form of "personal mental connections" during message exposure.[119] A central theme is that the personal relevance of an issue or object is critical to how people process information. Krugman focused on two notably different response processes. With the first

process individuals engage in issue relevant thought, and relate product information to information about self. With the alternative process individuals are relatively disinterested, and learning is passive in nature. As one can see this idea has definite parallels to the notion of central and peripheral processing response.

The idea of involvement as active thought has spawned numerous studies investigating the depth and breadth of verbal response at the time of stimulus exposure. Verbal elaboration may be an outcome of involvement. However, it is not involvement. One may produce many thoughts which appear to be related to self, but are actually memories of the mundane details of experience.[120] Further, it is tautological to say that involvement triggers "personal connections," then claim that "personal connections" are evidence of involvement. In order to circumvent these problems recent approaches have focused on conditions that precede or motivate alternative mental processes.[121]

Celsi and Olson, in a recent and influential article, argue that perceived personal relevance is the essential characteristic of the overall construct of involvement.[122] Involvement has often been associated with motivational and affective constructs. However, perceived personal relevance has substantial cognitive overtones. It is a direct function of the knowledge of personal goals, and their relationship to an issue or object. In many ways this is equivalent to

the idea of ego-centrality, proposed by Sherif and Cantril.[123] Ego-centrality is a constellation of attitudes about those things that a person "holds most dear." It includes the importance of, interest in, and relevance of any issue or object.

While personal relevance is triggered by knowledge, Celsi and Olson underscore the importance of felt-involvement.[124] Felt-involvement is a subjective state of personal relevance, which may include affective reactions which energize and feed the information processing task. Felt involvement has gone by several names, among them are message processing involvement, audience involvement, and response involvement.[125]

The causal basis for the relationship between self-knowledge and product knowledge is attributed to either enduring or situational factors. Enduring involvement is often conceived as an inner state that reflects a long-term product interest or attachment.[126] For many objects long-term interest is very low. Wasson has estimated that over 90% of consumer purchases are of objects with relatively low enduring involvement.[127] Due to the frequency with which we encounter situations with low enduring involvement recent models of the advertising response process have paid more attention to the situational factors that elevate involvement over the short-term.

Studies by Laurent and Kapferrer indicate that enduring involvement and situational involvement share a common factor.[128] This is not surprising. It seems reasonable that one who has a high level of enduring involvement with an object will also be involved in the situations where the object is prominent. However, the opposite is not necessarily true. High situational involvement may not bring on any lasting effect. However, they did not test the symmetry of the relationship.

The Impact of Involvement on Processing

The most frequent hypothesis regarding the impact of involvement is that increased involvement leads to a greater number of thoughts about a message. Petty and Cacioppo suggest that in situations where involvement is high "it becomes more important to form a reasoned and veridical opinion."[129] Individuals pay more attention to a message, allocate additional cognitive resources, and are more suspect of simplistic or specious arguments. The cognitive response paradigm suggests that high involvement processing results in verbal thoughts, encoded as propositional information and integrated into a coherent cognitive structure. In addition the relationships between constructs that are associated with the object are internally consistent and replicable in repeated measurements.

In contrast, low involvement processing is often related to low levels of issue relevant thought. The impact

of the message is believed to be a function of peripheral cues or weakly elaborated cognition.[130] Low involved processing often involves a simple response such as rehearsing message points. The distinction between low and high involvement processing can be a distinction between "echoing" a message and going beyond the message to generate ones own thoughts.

Despite the widespread acceptance of the involvement construct there are several concerns. First, there are concerns that it doesn't apply to a large part of consumer behavior. Second, despite associating high involvement and verbal response there are several reasons why a failure to verbalize does not confirm low involved processing. Nisbett and Wilson have underscored the inability of persons to report on their internal processing responses.[131] These failures could be due to processing that involves abstract information, processing involving visual concepts, or elaborative processing of emotion.[132] For example, Olson and Muderrosiglu found varied levels of reliability in free elicitation tasks requiring response to categories with different levels of abstraction. With the concrete categories of toothpaste and ball point pens reliability was high, (0.77 and 0.74 respectively). However, for jeans, a more abstract category, the test-retest reliability was substantially lower (0.47).[133] Their study involved memory probes rather than concurrent verbal response. However, one

might assume that similar variation might occur in response to advertising. As Johnson noted, many product categories are abstract by nature.[134] The response due to elaborating on whether an object is stylish, tasteful, or delicious may be very difficult to capture with verbal methods.

Another reason why a lack of verbal response may not indicate low involvement is that much of the information in advertising is non-verbal. Non-cognitive explanations are often invoked in order to explain the effect of non-verbal elements in advertising.[135] Implied in this explanation is the assumption that non-verbal elements are non-informational. However, this ignores early conceptions of the information processing system that acknowledge the informational, cognitive, nature of non-verbal elements in terms of cue-redundancy, learning context, and stimulus differentiation.[136]

One non-verbal factor that is receiving increased attention is the use of visual elements in advertising. Within the information processing paradigm visual content has often been analyzed in order to ascertain its effect on pre-elaborative processes such as attention. However, Rossiter and Percy, in a speculative article, suggest that visual detail is also elaborated.[137] This does not involve "replays" but the production of idiosyncratic visual responses that imply a connection between the object and its outcomes. Understanding visual processing will require

advances in measurement methods to provide the ability to link variation in perceived self-relevance to variation in visual response. Until measurement concerns are resolved it will be difficult to determine the degree to which involvement impacts non-verbal processing.

Product Knowledge and Product Experience

There is one additional reason why involvement may not trigger elaborative thoughts. This reason is that persons lack the knowledge to elaborate. One cannot think if one has no knowledge to think with. Although product knowledge is a common theme in the consumer behavior literature the emphasis on different types of knowledge differs considerably. Among the types of knowledge studied are objective knowledge, expert knowledge, subjective knowledge, brand familiarity, category experience, and category expectations.[138]

Subjective knowledge is what we think we know about an issue or object. Its importance to consumer behavior comes from studies that support a negative relationship to product search activity, and use of external information in decision making.[139] In contrast, objective knowledge is what we really know. One of the more common forms of objective knowledge is expertise, "the ability to perform product related tasks successfully."[140] Expert knowledge has been related to information processing outcomes. However, expert knowledge is often acquired in formalized situations, and

may be independent of the self knowledge that is important in consumer decisions. In many cases the knowledge necessary for product related tasks is unrelated to functional values that are important to choice. One need not know how to fix an auto to know what features make it enjoyable to drive. Recent reviews stress the importance of product or category experience as a mediator of processing response.

Experience is typically defined as instances of product contact, both product use, and advertising.[141] There are concerns that experience is inconsistent with the information processing approach since it is not a direct indicator of the content and structure of memory.[142] However, numerous studies have shown that experience does have substantial impacts on the contents and structure of memory for objects, and their roles within situations. Cohen and Basu have shown that many of the ways that we organize object knowledge depends on the nature of our experience.[143] The way in which we categorize objects will be shaped by personal experience. Barsalou has shown that the frequency of contact with specific objects, within a goal-directed sequence of behavior, impacts beliefs about category typicality as well as category expectations.[144] This includes judgements of product typicality, and judgements related to product evaluation. Further, the formation of idiosyncratic consumer categories is related to variation in experience. If one uses several objects within a goal-

directed context they may perceive all the objects to be typical of a category. If an object is used frequently its unique attributes may be associated with the category despite the fact they are not common to other category members. What is in one person's category is not necessarily in another's.

Park, Feick, and Motherbaugh have shown that product knowledge is dominated by thoughts related to product experience.[145] Brooks has shown that much of the knowledge about everyday events is stored in terms of specific instances of experience.[146] While the specific instances may be preserved they are also linked in hierarchical fashion, into scripts, where organizing themes are the common aspects of a class of repetitive events.[147] Expert or objective knowledge does not account for the experience of individuals. Therefore, it is relatively unimportant in assessing category expectations and category typicality. Instead, contextually relevant processing tasks will be affected by experience, or the beliefs that are directly affected by experience. The schema and scripts which provide central organizing themes for thoughts and product knowledge depend on experience.

The Impact of Experience on Message Processing

Differences in product experience are associated with differences in response to persuasive messages. However, it is incorrect to say that product experience, itself, has an

impact on message processing. Instead, one should be concerned with how message cues act to elicit memories that can be used as "frameworks" for processing message content. This depends on the memories available, and the cues provided.

A message's primary cues, whether verbal or visual in nature, typically evoke a verbal labeling response.[148] Cues may also elicit the automatic production of an image, a mental "snapshot."[149] An initial identification response to advertising is typically of the form "that is an XXX."[150] The likelihood of any specific identification response is a joint function of message cues and the accessibility of memories for an object. Given its automatic nature object identification is facilitated by similarity between perceptual input and the prominent features of an object's representation in memory.

Mervis and Rosch have shown that identifying an object as a member of a category is facilitated when the features most frequently associated with category membership are the most prominent features of the stimulus situation.[151] Despite the ad-hoc nature of goal-directed categories subjects often identify a core of common attributes in response to category probes. Many findings indicate that subjects are more likely to name attributes that are common to all category members than attributes that are unique to one or few category members.[152]

Some categories are formed in order to organize the objects from which choices are made. Other categories serve as frameworks for interpreting events. A single category can simultaneously serve both functions. This is what Cohen calls an evaluative framework. Categorization involves an overall comparison between a target object and category knowledge. Evaluation is based "on a type of matching process in which object categorization and evaluation are implicitly linked."[153] Identification may trigger an affective response consistent with past experience. This is what Cohen and Basu call a schema-consistent response.[154]

An example of the link between categorization, evaluation, and choice can be seen in an automotive context. Economy-car is a category related to choices regarding low cost automotive transportation. It is also used as a reference to interpret information. In contrast there may be a category of safe-cars that are used to interpret features related to automotive safety. If one defines choosing as "selecting from among alternatives" then choices may not be made from among safe-cars. The category may include too many diverse alternatives, such as economy-cars, family-cars, and luxury-cars. However, one would expect consumers to value safety in an automobile. Safe-cars may be used as a framework in order to acquire information relevant to this evaluation. The advertiser may build affect for an auto by associating it with the category of safe-cars. It is

possible that the conclusion that the car is safe is formed, initially, through analytic concept identification. However, it is not the piece by piece belief structure that is important, but the overall conclusion that is critical to evaluation. If information is presented that is consistent with current mental representations there may be a direct impact on attitude without considering specific beliefs. If the advertiser wishes to impact behaviors, such as intentions and choice, the car may need to be associated with a category from which alternatives are selected. An ideal situation is to build associations to a relevant behavioral category and any evaluatively positive categories. These associations could result in an evaluatively positive response such as "that is a safe economy-car."

The most prominent features of the representations of objects within a category are the attributes that are common among category members. Of all the attributes associated with an object common attributes should be the most valid cue in identification.[155] Therefore,
a response that assigns an object to a specific category should be most likely when common category attributes are presented.

Building an association to a category may also be facilitated by presenting the object within situations that are typical for that object. Park, Feick and Motherbaugh

have shown that a large part of our consumer knowledge is organized around situations and experiences.[156] What we learn about objects is frequently about their roles within situations. For example, we often associate specific foods with specific occasions. Bratwurst may be associated with picnics and tail-gate parties. Cohen and Basu suggest that presenting products in situations that are similar to experience increases the likelihood that the object will be associated with a functionally relevant category, and with the affect associated with that category.[157]

Sujan has shown that failing to identify the brand with a category leads to piecemeal processing of attribute information and a failure to form an overall evaluation.[158] Wilson and Kraft have shown that a mismatch between what a message makes salient and category expectations may degrade attitudes.[159] For example, one might expect that the attitude for a snack food would improve if one believed it was healthy. However, if "healthy" is inconsistent with beliefs about snack foods then a message could have little or no impact, despite the information on an attribute that would typically be valued.

Where knowledge is low, or the category identity is not established through experience, identification is made more difficult by the fact that categories generally do not have clear cut boundaries.[160] Attributes that are shared with objects in other categories are less valid cues to

classification. Attributes that are unique in one category are often common in another. This may increase the probability of assignment to a category not intended by the message sender. Because persons with low product knowledge make category level distinctions they may have difficulty in classification tasks if unique attributes are presented.[161] Cohen has suggested that unique attributes fail to become meaningful unless the relationship of the object to a functionally relevant category is established.[162] Rossiter and Percy have shown the necessity of establishing beliefs about a category prior to establishing beliefs about a specific brand.[163] Subsequently, focusing on unique attributes, while failing to elicit a proper identification response, may result in a failure of advertising to influence attitude. Persons with low levels of product experience may be better able to respond to a message if its focus is on category level distinctions and category level attributes.

When an object is linked to a category through prior experience, information on common attributes may be unnecessary for identification.[164] For example, if an advertisement focused on the safety features of a Ford Escort a current owner, or someone who had recently compared models, would probably identify it as an economy car. If an object can be identified as a member of a functionally relevant category and possesses unique characteristics there

may be potential to associate affect beyond that linked solely to the category. Several theories suggest ways in which uniqueness is related to preference. The first reason is found in proposals that suggest that consumers have a need to seek varied experiences (i.e., novelty seeking).[165] An alternative, but not incompatible theory, is that uniqueness is desired for its own sake.[166] A final rationale is that people prefer one object to another because specific attributes add value. These theories all suggest that uniqueness, when it occurs, can provide a rationale for preference.

Persons who have experience with specific objects in a category are more likely to associate that object with the category, even without specific cues to category membership. They are also more likely to make distinctions between objects in the category, and to value the differences among category members. Experience with objects facilitates comparisons between those objects. Differences between members of the same categories and similarities between members of different categories are reinforced with additional instances of experience. For example, a person with little experience might note that the Corvette and Porsche are both sports cars. However, the experienced auto enthusiast might note that a Corvette is a front-engine, rear-drive V8 made in the U.S., and the Porsche is a rear-engine, flat-six made in Germany. The experienced auto-

enthusiast may be relatively unaffected by the generalities of the category, and may be more likely to produce a meaningful evaluative response to information about the unique characteristics of category members.

Attitude-Object-Specificity in Advertising: Impact on Attitude and Hypothesis

For the purpose of this study attitude-object-specificity is comprised of two different types of messages cues. The first is based on attribute specificity. Attributes are either common among category members, or unique to specific objects within the category. The second cue is the situational context. Situations can be sampled from among any of the potential use occasions. However, manipulations can be designed so that situations are absent from copy, present and similar to experience, or present and dissimilar with experience.

Prior to the specific hypotheses, relating attitude-object-specificity to attitude, it is important to delimit the idea. Differences in attribute information may be stated or implied in verbal message elements or portrayed through non-verbal elements. Ideal executions are idiosyncratic to the campaign. For example, the specification of a light beer could involve verbal information about calorie content, and may show consumption at an outdoor activity where light beer is commonly consumed. The ad may be more effective if it portrays slender, attractive people enjoying the beer.

However, the actors are not critical to the attitude-object-specification. What is critical is the presence or absence of information on calorie content and/or the representation of a product use situation that is similar to or dissimilar from the experience of consumers.

Impact on Overall Attitude

Two indicators of attitude were used in this study, overall attitude, and attitude toward the act of consumption. The first group of hypotheses address impacts on overall attitude. Impacts on attitude toward the act of consumption are addressed later.

The primary assumption of this study is that specificity in advertising content affects attitude, and this effect is a function of prior experience with the product. There are two aspects to specificity, the situational context, and the attribute specificity. Further, the degree of similarity between a situational portrayal or representation and the actual experience of the individual will impact the response to the message. Specifically:

> H1: The mean overall attitude score will be significantly higher when the situations presented in advertising are similar to the situations that are experienced by an individual.

The next three hypotheses deal with the effects of attribute specificity in advertising. When information is consistent with category expectations schema-consistent affective processes will mediate consumer evaluation, and

the affect associated with the category is associated with the object. Perceptions of category typicality and category expectations change to conform to the frequency of experience. The more frequently one experiences an object, in a categorical context, the greater the association of that object's attributes with the category.

H2a: The attribute specificity, presented in advertising, and the level of prior experience with the attitude object will interact to impact the mean overall attitude score.

Specifically:

H2b: The mean overall attitude score for individuals with high levels of product experience will be significantly greater when advertising presents unique attributes.

H2c: The mean overall attitude score for individuals with low levels of product experience will be significantly greater when advertising presents common attributes.

While each cue, in the attitude-object-specification, has a specific effect they also have a combined effect. Medin and Shaffer have discussed additive and interactive effects for cue combinations.[168] Their discussion, as well as the result of four experiments, supports a model that assumes positive interaction in addition to or in place of additive effects in the combination of information across cues. Therefore:

H3: There will be a positive interaction between attribute specificity and the situation similarity presented in advertising so that the combined effect on the mean overall attitude score will be significantly greater than an additive estimate of the two individual effects.

When a person has little experience with an object and is confronted with information on its unique attributes they may not initially place that object in a functionally relevant category. The initial identification may not be of the form "that is an XXX." Instead the response is likely to be of the nature of "what have we here?" When this occurs a schema-driven evaluative response is unlikely. It is more likely that attribute by attribute processing, with a focus on specific information in the message, mediates evaluation. The impact of attribute based processing is affected by the level of involvement for the overall domain of knowledge, (i.e., category involvement). Higher involvement leads to a higher likelihood of forming an overall evaluation. Therefore:

H4: When experience with a product is low and advertising presents unique attributes the mean overall attitude score will be significantly greater for persons with high category involvement than for persons with low category involvement

Impacts on Beliefs and Attitude Toward the Act

Multi-attribute models suggest that belief change will be a function of information presented.

H5: Each mean belief score, in a multi-attribute model of attitude toward the act, will be significantly greater when advertising presents information on the attribute relevant to that specific belief.

Several studies indicate that evaluative components in a multi-attribute model are influenced by experience, personal contact, and self-relevant goals rather than

persuasive by communication. Olson and Dover suggest that if evaluative components of an expectancy value model are influenced by advertising the change will be slow, over time, and with repeated exposure.[169] In the face of attitudinal-belief-oriented message and a single exposure occasion the evaluative components in a multi-attribute model should remain constant. Therefore:

H6: Variation in the content of the manipulations will have no significant impact on the mean evaluative scores in a multi-attribute model of attitude toward the act.

The Relationship Between Measures of Attitude

If the overall evaluation of an object is based on a belief of membership in a functionally relevant category then a strong relationship between the object and the consequences of its use should exist. The index for attitude toward the act depends directly on beliefs in the consequences of action. Therefore:

H7: There will be a significant positive correlation between the measure of overall attitude and the measure of attitude toward the act.

Impacts on Behavioral Intentions

The final hypotheses are not unique to this research. They are based on prior findings, and are intended to show the behavioral ramifications of this research. Fishbein's model specifies that a persons's intention to act is a function of the attitude toward the action, normative beliefs, and the motivation to comply with those beliefs. A

persuasive message can impact behavior through any of the three components. Ajzen and Fishbein indicate that normative beliefs and motivational components are most directly affected by messages aimed at each specific target response, instead of attitudinal messages aimed at beliefs or affective reactions.[170] Therefore:

H8: Variation in attributes and situations will have no significant effect on the measure of normative beliefs.

H9: Variation in attributes and situations will have no significant effect on the measure of motivation to comply.

H10: Purchase intentions toward the attitude object will have a significant positive correlation with attitude toward the act of consumption, behavioral norms, and the motivation to comply with the norms, as specified by Fishbein.

If an object's overall evaluation is based on its inclusion within a functionally relevant category then it is associated with the consequences of that category. In this case a direct measure of overall attitude should be a substantial predictor of behavioral intentions. Therefore:

H11: Purchase intentions for the attitude object will have a significant positive correlation with the index of overall attitude.

Concluding Comments

If all or some of the experimentally induced variance in attitudes is explained by variation in beliefs then an analytic, reasoned approach to attitude formation is supported. However, if attitude change occurs with no experimentally induced change in beliefs then we must look

to an alternative model of attitude change. Further, if support is found for hypotheses derived from discussions of schema-theoretic concepts then support for a schema-consistent model of attitude change is provided.

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CHAPTER III: METHODS

Overview

To test the hypotheses, that attitude-object-specificity impacts attitude, a three stage-procedure was used. The first stage was a free recall task to identify characteristics that are common or unique to members of the snack food category. The results were used to develop copy manipulations that varied in the degree to which they presented information on common or unique product attributes. The second stage was a manipulation check, to test whether subjects perceived the manipulations as portrayals of common or unique attributes. Based on the results of the manipulation check three levels of attribute specificity were selected, one common, one mid-range, and one unique. The manipulations were further modified to incorporate a usage situation. Three situations, plus a non-situational portrayal were used. The attribute and situation combinations resulted in twelve manipulations. The final stage was an experiment. The impact of manipulations on the dependent variables of overall attitude, attitude toward the act, behavioral norms, motivation to comply, and behavioral intentions, was assessed with a post-test only design. In addition, the covariates of product use and involvement were measured. The hypotheses focus on differences in effects across the manipulations. However, a control group was included to observe the initial levels for attitudes.

Sample

A sample of upper-division undergraduate students, in marketing and advertising, were utilized as subjects for this experiment. There are arguments against the use of student samples. Most of the arguments focus on whether the results can be generalized to other populations and settings.[1] Generalizing from a student population is a legitimate concern. However, what is more important to a test of theory is that conclusions drawn from the experiment reflect what has gone on in the experiment itself.[2] An adequate test of hypotheses derived from theories of memory organization requires that subjects have experience with the domain of interest. According the MediaMark Research 1992 DoubleBase Report, (MRI), college students are primary consumers for many snack items.[3] Further, the manipulations were based on variation in attributes that were drawn from the subject population. Therefore, adequate knowledge representations should be available so that concerns for internal validity, due to the likelihood of an unnatural information processing task, should be minimal. MRI sample sizes preclude volume estimates for specific items. However, college students snack often on a variety of items.

Stage 1: Attribute Identification

The first stage was a free recall task to identify the attributes of snack food items. Forty-five subjects were recruited from an upper-division advertising research

course. A procedure developed by Mervis and Rosch,[4] and tested by Saunders, et al., was utilized.[5] Subjects were given a four-page form. A cover sheet addressed matters of implied consent. Three pages were used to record responses. The form is shown in appendix 1. After subjects read the cover sheet the instructions in Figure 3.1, Part 1, were read. The instructions were adapted from Mervis and Rosch. The subjects were asked to list types of foods, not brands. They were given 90 seconds to complete the task. Subjects then placed the names for the first four items they recorded in the appropriate spaces on the response form. Then subjects were read the instructions in Figure 3.1, Part 2, and asked to complete attribute lists for the selected items.

> Part 1: Product Listing Task
>
> This is a simple test to identify the characteristics and attributes normally associated with some everyday objects. For example, for bicycles you might think of things like two wheels, handlebars, etc. There are three pages after the cover sheet. On the second page write down the names of snack food items that you frequently or sometimes consume.
>
> Part 2: Attribute Listing Task
>
> For each snack food item write down all the characteristics or attributes you can think of. Try not to free associate. For example, if an item reminds you of a friend DO NOT write down the name of that friend. You will have a minute and a half for each item. Write down as many attributes as you can until you are told to go to the next item.

Figure 3.1: Instructions for Attribute Identification

The first step in determining whether attributes were common or unique is to create a product-by-attribute matrix. About 40 different products were mentioned. Judgement may enter into creating the matrix as similar items may be grouped.[6] For example, corn chips and tortilla chips were recorded under a single heading. However, an effort was made to deviate as little as possible from the language used by subjects. Thirteen product sub-categories were identified in this fashion. For each subject and product an attribute mention was tallied in the matrix. The categories, and the attributes associated with them, are shown in Table 3.1 below. According to Mervis and Rosch when an attribute is mentioned but the product did not possess the attribute no count was recorded. Mervis and Rosch also suggest that when an attribute is not reported and the object does possess the attribute it should be credited to the object. Saunders, et al., indicate this procedure does not improve the prediction of product typicality.[7] Due to potential bias this step was not conducted. Once the matrix is complete attribute scores were computed. When an attribute is mentioned in a sub-category it is tallied in the column "GM", in Table 3.1. Attributes associated with all or many products are common to the category. In contrast, attributes mentioned in few sub-categories are unique to the objects in those sub-categories. The attributes are shown in rank order of frequency in Table 3.1.

Table 3.1: Common and Unique Attributes for Snack Foods

Legend: GM = Number of products for which attribute is mentioned. Products are: 1: Fruit, 2: Cookies, 3: Tortilla/Corn Chips, 4: PopCorn, 5: Pretzels, 6: Potato Chips, 7: Candy/Candy Bars, 8: Ice Cream, 9: Pastry/Cup Cakes, 10: Cheese Puffs/Cheese Curls, 11: Nuts, 12: Crackers, 13: Nachos/Nacho Chips

		Category Grouping												
Characteristics	GM	1	2	3	4	5	6	7	8	9	10	11	12	13
Taste Good	12	4	4	5	1	1	6	6	1	2	3	1	0	1
Variety	12	2	5	5	6	7	14	17	1	3	3	2	9	0
Convenient	11	1	2	5	2	4	4	4	0	1	1	1	2	0
Filling/Satisfying	10	2	3	2	2	3	1	8	0	0	0	1	2	2
Crunchy	8	0	2	9	7	12	20	0	0	0	3	0	2	4
Distinctive Shape	8	0	2	6	0	6	16	1	0	0	2	0	6	2
Good with other food	8	0	0	2	1	6	7	0	1	2	0	2	1	0
Salty	8	0	0	13	6	16	27	0	0	0	2	2	5	3
Distinctive Color	7	0	0	2	2	5	5	1	0	0	2	0	1	0
Sweet	6	3	3	0	0	0	0	8	3	1	0	2	0	0
Crisp	6	0	0	3	0	1	12	0	0	0	1	0	5	2
Inexpensive	6	1	0	3	2	4	1	3	0	0	0	0	1	0
Plain/Bland	6	0	0	0	1	2	3	0	0	0	0	1	1	1
Good with Dip/Toppings	5	0	0	11	0	4	13	0	0	0	0	0	4	4
High Cal/Fattening	5	0	0	1	0	0	7	5	0	1	1	0	0	0
Light (Not Filling)	5	0	0	2	9	1	7	0	0	0	0	0	0	1
Healthy	5	2	0	2	5	3	0	0	0	0	0	1	0	0
Messy/Sticky	5	0	1	1	4	0	0	0	0	0	4	0	0	1
Low Cal	4	1	0	0	1	4	0	0	0	0	0	0	2	0
Crumbly/Flaky	4	0	3	1	0	0	6	0	0	0	0	0	1	0
Distinctive Texture	4	0	0	1	0	5	1	3	0	0	0	0	0	0
Greasy/Oily/Fatty	4	0	0	3	0	0	15	0	0	0	1	1	0	0
Baked	3	0	0	0	0	2	0	0	0	0	1	0	1	0
Carbo/Energy Boost	3	0	0	0	0	1	1	3	0	0	0	0	0	0
Convenient to Prepare	3	0	1	1	5	0	1	0	0	0	0	0	0	0
Holsum Ingredients	3	0	0	0	1	0	0	2	1	0	0	0	0	0
Moist/Creamy	3	0	2	0	0	0	0	0	1	2	0	0	0	0
Party Food	3	0	0	0	0	1	1	0	0	0	0	0	0	1
Addicting/Can't Eat One	2	0	0	0	0	0	5	0	0	0	2	0	0	0
Buttery	2	0	0	0	4	4	0	0	0	0	0	0	0	0
Cheesy	2	0	0	0	0	0	0	0	0	0	3	0	0	3
Chewy	2	0	4	0	0	0	0	5	0	0	0	0	0	0
Dry	2	0	0	0	0	2	0	0	0	0	0	0	1	0
Expensive	2	0	0	1	0	0	0	1	0	0	0	0	0	0
Fun	2	0	0	0	1	0	0	1	0	0	0	0	0	0
Natural/Fresh	2	4	0	0	0	0	0	0	0	0	0	1	0	0
Not Healthful	2	0	0	0	0	0	1	4	0	0	0	0	0	0
Puffy/Fluffy	2	0	0	0	4	0	0	0	0	0	2	0	0	0
Sugary	2	0	2	0	0	0	0	6	0	0	0	0	0	0
Tangy	2	1	0	0	0	0	0	0	0	0	0	0	0	1

Stage 2: Manipulations and Manipulation Check

Selection of Attitude Object

The attribute specificity facet of attitude-object-specificity is the degree to which advertising portrays attributes that are common to the category, or unique to a product within a category. The sub-category selected for this study, fruit, is associated with many common and unique attributes. This allows manipulations at both common and unique levels of attribute specificity. Although fruit can be branded, such as Sunkist or Chiquita, it is primarily thought of in its generic terms, e.g., apples and oranges.[8] This is important because it allows processing activity to focus on product attributes rather than brand identities.

Selection of Object Attributes

The first step in developing manipulations was to select the common and unique attributes of the attitude object. Table 3.1 shows that variety and convenience are characteristics common among members of the snack food category. Variety was mentioned in 12 of the 13 groupings, convenience in 11 out of 13. Studies by Palmer and Crupnick, and by Ward and Loken, show that convenience is a common attribute for the snack food category.[9] Sweet and low calorie are less frequently associated with the snack-food category but are associated with fruit. Sweet was mentioned in six of the 13 categories and low calorie in five. They

are found together in only the fruit sub-category. Attributes were selected starting with the most common attributes, successively adding more unique attributes, and eliminating common attributes. This continued until the most unique attribute combination was presented. Note, from Table 3.1, that the combination of sweet and low calorie is unique to only one sub-category, fruit. The successive changes in attribute pairings are shown in Figure 3.2, below.

Most Common Manipulation
Characteristics: Variety, Convenience
Number of groups for attribute(s) mentioned: 11

Second Manipulation
Characteristics: Convenience, Satisfies Hunger
Number of groups for attribute(s) mentioned: 9

Third Manipulation
Characteristics: Satisfies Hunger, Inexpensive
Number of groups for attribute(s) mentioned: 6

Fourth Manipulation
Characteristics: Inexpensive, Low Calorie
Number of groups for attribute(s) mentioned: 4

Most Unique Manipulation
Attributes: Sweet, Low Calorie
Number of groups for attribute(s) mentioned: 1

Figure 3.2: Common and Unique Manipulations

Copy Development

The layout included a simple photo of an assortment of fruit. In lieu of body copy four bullet points, two for each attribute, were used. A sponsorship acknowledgement was included for realism. In a practical execution one expects the visual content, as well as the style of copywriting, to

complement the verbal attribute information.[10] For example, if the attribute "low-calorie" is featured one could show slender people enjoying fruit. In addition, the copy might be upbeat and energetic in tone. This might be ideal for maximizing the persuasive potential of the message. However, the impact of the secondary cues that accompany any attitude-object-specification might vary greatly. These variations might introduce alternative factors that influence attitude toward the object, such as attitude toward the ad. These factors would diminish the internal validity of the study. Therefore, to isolate the effect of attitude-object-specificity the visual and verbal elements are very simple, and consistent between the manipulations.

To insure the ads were perceived as portrayals of common or unique attributes a manipulation check, using a separate sample of 30 individuals, was performed. Each subject was given the five treatments, noted above, and asked to sort the ads, in order, from the one that depicts the attributes most common among members of the snack food category to the one that depicts the attributes that are most unique to the fruit items. For each subject the rank order was recorded, and is shown below in Table 3.2. Manipulation "1" features the most common combination of attributes, and manipulation "5" features the most unique combination. A Friedman Two-Way Analysis of Ranks was conducted in order to determine whether the distributions of

the five treatment populations were identical.[11] The results are shown in Figure 3.3, below. Based on the results in Table 3.2, and the results of the analysis of ranks, it was concluded that the manipulations of attribute information were perceived in the expected order.

Table 3.2: Manipulation Check, Order of Copy Sort by Subject

	Sort Position				
Subject	1	2	3	4	5
1	2	1	3	5	4
2	1	2	3	4	5
3	4	1	2	3	5
4	1	3	2	5	4
5	1	2	4	3	5
6	1	3	2	4	5
7	2	3	1	5	4
8	1	2	4	3	5
9	1	2	5	3	4
10	1	2	3	5	4
11	4	5	3	1	2
12	2	1	3	4	5
13	1	2	5	4	3
14	5	4	2	3	1
15	2	4	5	1	3
16	2	1	5	3	4
17	4	1	5	3	2
18	1	3	2	5	4
19	1	2	4	3	5
20	1	3	2	4	5
21	2	3	1	5	4
22	1	2	4	3	5
23	1	2	5	3	4
24	1	2	3	5	4
25	4	5	3	1	2
26	2	1	5	3	4
27	4	1	3	5	2
28	1	3	2	5	4
29	2	3	1	5	4
30	1	2	4	3	5
Average	1.9	2.4	3.2	3.6	3.9
Median	1	2	3	3	4
Mode	1	2	3	3	4
Sum	57	71	96	109	117

H_o: The distributions of the five treatment populations are identical.

H_1: Not all five treatment distributions are identical.

$$Chi^2 = \frac{34.3}{} = \frac{12}{(N*k)*(k+1)} * \text{Sum Ranks}^2 - 3 * N(k+1)$$

The critical Chi^2 value at 0.05 and 4 df, (k-1), is 9.488. The null hypothesis is rejected.

Figure 3.3 Friedman Two-Way Analysis of Ranks

From the five manipulations, above, numbers 1, 3, and 5 were selected as portrayals of common, mid-range, and unique attributes.

In order to incorporate situations into the copy a group of 31 upper-division advertising students were informally questioned to determine some typical situations for snacking. Three situations were selected from their responses: late at night, between class, and after physical activity, (exercise). The combination of three levels of attribute specificity with three situations and one situation-free portrayal resulted in twelve manipulations. These are shown in appendix 2.

Stage 3: Experimental Treatments

The third stage was a post-test only experiment with random assignment to one of twelve treatment groups or a control group. In addition to the dependent measures for attitudes the covariates of prior knowledge and involvement were measured.

Administration

In order to insure sufficient subjects to test for interactions between attribute specificity and situational specificity 144 subjects was considered a minimum. The ten minute experiment was conducted at the end of class periods, and participation was voluntary. A plain folder was assembled with a cover sheet with the elements of informed consent, one of twelve treatments, or a dummy ad for the control group, and the measurement instrument. Specific measures are discussed below. The entire measurement instrument is shown in appendix 3.

The folders were randomly distributed among subjects. Subjects were given sixty seconds to read the cover sheet. Then, they completed items on personal characteristics, involvement, and overall snacking frequency. It is important to measure involvement prior to treatments as the manipulations themselves may enhance self-relevance. At this point subjects were instructed to pause until all were finished with the initial measures. Then, subjects were instructed to remove the treatment and "Just look at this ad as you would normally."[12] After about thirty seconds subjects were asked to place the treatment back in the folder. An intervening task was performed involving a show of hands on several questions related to computer use. Then, subjects were instructed to look at the ad for a second time. Although processing arguments suggest that three

exposures may be necessary for an ad to have its full effect Rethans, et al., have shown that tedium begins during the third exposure.[13] Therefore, the treatment was limited to two exposures. At the conclusion of the second exposure subjects were asked to place the treatment in the folder and complete the measurement instrument. The first post-exposure task was completing a measure of snacking behavior, by situation, and by snack food. This measure provided an effortful intervening task prior to taking measures on the dependent variables.

Covariate Measures

Involvement

Within consumer behavior studies it has been common to utilize manipulations of involvement. However, recent conceptions of involvement, as perceived personal relevance, are inconsistent with this approach. Celsi and Olson indicate that involvement is not easily manipulated as it reflects linkages between objects, behaviors, and self-knowledge that are built-up over time.[14] Oden suggests that many manipulations may get people to think more, but not in a fashion that is consistent with natural processing.[15] Instead of manipulating involvement it is becoming more common to rely on natural variation, and to measure it by means of an involvement inventory. Inventories have been developed recently by McQuarrie and Munson,[16] Ohanian,[17] Rifon, et al.,[18] and Zaichowsky.[19] The shortest, by Ohanian,

includes five items. The longest, by Zaichowsky, includes twenty. The exact wording of the verbal anchors varies. However, all four inventories share a common base of items. This is seen below in Table 3.3.

Table 3.3: Involvement Scale Anchors

Anchoring Word / Phrase	Ohanian	McQuarrie & Munson	Rifon, et al	Zaichowsky
Irrelevant ... Relevant	X	X	X	X
Unconcerned ... Concerned	X	X	X	X
Important ... Unimportant	X	X	X	X
Boring ... Interesting	X	X		X
Care a lot ... Couldn't care less	X			
Useless ... Useful			X	X
Means a lot ... Means nothing		X	X	X
Valuable ... Worthless			X	X
Matters ... Doesn't matter		X	X	X
Uninterested ... Interested		X	X	X
Appealing ... Unappealing		X	X	X
Essential ... Nonessential			X	X
Unexciting ... Exciting		X		X
Dull ... Neat		X		
Fun ... Not fun		X		
Trivial ... Fundamental				X
Significant ... Insignificant				X
Vital ... Superfluous				X
Mundane ... Fascinating				X
Undesirable ... Desirable				X
Wanted ... Unwanted				X
Needed ... Not Needed				X
Valuable ... Worthless				X

Ohanian's scale has several advantages. In all studies cited above the five items of Ohanian's Scale were among those with the highest loadings on the primary factor. The scale contains the items that are most related to a factor of self-relevance. Second, it is simple, which minimizes respondent confusion. This has been cited as a problem in administering multi-item scales for involvement.[20] Finally, Ohanian's scale has test-retest reliability of 0.89 or better in four different substantive domains.[21] The entire scale is shown below in Figure 3.4.

FOR EACH OF THE FOLLOWING ITEMS CIRCLE THE NUMBER THAT BEST INDICATES HOW YOU PERCEIVE THE ACTIVITY OF SNACKING AND HOW YOU PERCEIVE SNACK FOODS. MAKE SURE YOU COMPLETE ALL ITEMS.

Boring to me	1 : 2 : 3 : 4 : 5 : 6 : 7	Interesting to me
Totally unconcerned about	1 : 2 : 3 : 4 : 5 : 6 : 7	Highly concerned about
Important to me	1 : 2 : 3 : 4 : 5 : 6 : 7	Unimportant to me
Care a lot about	1 : 2 : 3 : 4 : 5 : 6 : 7	Couldn't care less about
Is relevant to me	1 : 2 : 3 : 4 : 5 : 6 : 7	Is irrelevant to me

Note: The last three items are reversed for scoring.

Figure 3.4: Ohanian Involvement Scale

Product Experience

Experience is defined as product related encounters, which include product consumption and advertising exposure. However, experience in the context of product use is the most influential determinate of familiarity, and expectations.[22] Therefore, the correct indicator for experience was a measure for snacking, by situation, by snack-food.

Two measures of product experience were utilized in this study. The first measure was a simple checklist for the frequency of snacking behavior. It was administered prior to the advertising manipulations. This measure is shown in Figure 3.5, below. The second was a more complex measure for frequency of snacking by situation, and by snack food item. It is shown in Figure 3.6. The second measure determined which snacks each respondent consumed, and in which situations they were consumed. The first measure was used as a consistency check for the second.

SELECT THE ITEM THAT BEST REPRESENTS YOU SNACKING BEHAVIOR

NEVER SNACK _____

SNACK ONCE A DAY _____

SNACK TWICE A DAY _____

SNACK THREE TIMES A DAY _____

IF MORE THAN THREE INDICATE HOW MANY TIMES A DAY _____

Figure 3.5: Measure for Overall Snacking Frequency

IN THE BOXES BELOW CIRCLE THE APPROXIMATE NUMBER OF TIMES THAT YOU CONSUME EACH OF THE SNACK ITEMS, IN EACH OF THE SITUATIONS, IN A TYPICAL WEEK.

	Evening Late Night Relaxing	Between Classes	After Exercise or Physical Activity	Other Situation
Candy / Candy Bars	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Cookies / Pastry / Donuts	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Potato / Corn Chips	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Nachos	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Popcorn	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Fresh Fruit	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Other Snack	1 2 3+	1 2 3+	1 2 3+	1 2 3+

Figure 3.6: Measure for Snacking by Situation

Measures for Dependent Variables

The dependent variables in this study are overall attitude toward fruit, attitude toward the act of consumption, and behavioral intention. Overall attitude was measured by means of a seven point, three item scale, anchored by pairs of adjectives. An initial pool of seven items were selected from Osgood's Semantical Differential.[23] They were tested with a group of 31 upper division undergraduates. Three items were selected from the initial pool. They are shown below, in Figure 3.7. The items had a coefficient alpha of 0.86.

As a snack fresh fruit is:

Very Good _1_:_2_:_3_:_4_:_5_:_6_:_7_ Very Bad

Appealing _1_:_2_:_3_:_4_:_5_:_6_:_7_ Unappealing

Enjoyable _1_:_2_:_3_:_4_:_5_:_6_:_7_ Unenjoyable

Figure 3.7: Scale for Overall Attitude

Attitude toward the act of consumption was measured by a six item scale. Consistent with Fishbein's model there were two components for each item, a belief component and an evaluative component. Independent studies by Palmer and Crupnick, and by Ward and Loken, have shown that convenience, taste, and economy are salient beliefs for the snack food category.[24] In this study inexpensive and sweet correspond to taste and economy. Three additional items were included: low calorie, variety, and satisfies hunger. Therefore, the scale contained items for all six manipulated attributes. The scale is shown below in Figure 3.8.

INDICATE THE DEGREE TO WHICH THE FOLLOWING STATEMENTS INDICATE SOMETHING THAT IS VERY LIKELY OR VERY UNLIKELY TO BE ASSOCIATED WITH SNACKING ON FRUIT

When eating fruit as a snack I have many choices
Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Fruit is a convenient snack
Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

When snacking on fruit my hunger is satisfied
Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Snacking on fruit is economical
Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Snacking on fruit helps me watch my calories
Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Fruit is a sweet tasting snack
Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

INDICATE THE DEGREE TO WHICH THE FOLLOWING STATEMENTS INDICATE SOMETHING GOOD OR BAD ABOUT SNACKING ON FRUIT

When snacking on fruit I have many choices
Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Snacking on fruit is convenient
Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

When snacking on fruit my hunger is satisfied
Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Snacking on fruit is economical
Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Snacking on fruit helps me watch my calories
Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Fruit is a sweet tasting snack
Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Figure 3.8: Scale for Attitude Toward the Act of Consumption

Fishbein's model also specifies the belief-attitude relationship, where:

> an individual's intention to perform a given act is a joint function of his attitude toward performing that behavior (A_{act}) and his beliefs about what others expect him to do in that situation. These normative beliefs (NB) are in turn multiplied by the individual's motivation to comply with the norms (Mc). Symbolically the central equation of the theory can be expressed as follows:[25]

$$B \sim BI = (A_{act})w_o + (NB(Mc))w_1$$

Verbal expressions of intentions involve behavior toward a target object in a specific situation, and at a specific time. Specifying the elements of behavioral intention is important in the prediction of purchase or consumption because contextual factors act as restraints or mediators to the behavior. In as much as contextual constraints may be uncertain Ajzen and Fishbein indicate that intentions have a probability or confidence component, in addition to the act component.[26] To accommodate tests of Fishbein's Behavioral Intentions model the measures in Figure 3.8, below, were used.

In some specifications motivation to comply with the norms was dropped from the Fishbein Model. Research has focused on the conditions where one or the other of these variables, (A_{act} or NB), will be salient. In many cases involving consumer behavior NB, (norms), are not salient.[27] However, testing the degree to which the model predicts independent measures of intentions requires a measure of behavioral norms, motivation to comply, and of course, a

measure of behavioral intentions. These are shown in Figure 3.9 below.

My friends and family believe that snacking on fresh fruit is a good idea

Strongly Agree 1 : 2 : 3 : 4 : 5 : 6 : 7 Strongly Disagree

Snacking on foods that my friends and family think are good is a good idea.

Strongly Agree 1 : 2 : 3 : 4 : 5 : 6 : 7 Strongly Disagree

How likely are you to snack on fresh fruit in the next week

Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Figure 3.9: Measures of Behavioral Norms, Motivation to Comply, and Intentions

Plan of Analysis

The primary hypotheses are concerned with the comparison of means, of interval level attitude scores, between treatment groups. The treatments are based on the nominal variables of situation specificity, and attribute specificity. In addition, several hypotheses are concerned with the interactions between the levels that define the treatments, or between treatments and the covariates of involvement and prior experience. Therefore, each hypothesis, regarding the impact of attitude-object-specificity on overall attitude, attitude toward the act, or specific components of the Fishbein model for attitude

toward the act, are tested by means of One-way ANOVA, Two-way ANOVA, or MANOVA. In addition the hypotheses relating the two measures of attitudes to behavioral intentions are to be tested by specifying alternative regression models, and examining the goodness-of-fit.

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CHAPTER IV: FINDINGS

Subject Profile and Snacking Behavior

A total of 181 subjects provided data for this study. Within this sample 156 were exposed to manipulations, and 25 were in the control group. A general demographic break-down is shown in Table 4.1 below. Relatively few demographic items were measured due to the fact that there are no explicit assumptions about how demographic variation would impact results. The primary purpose of the demographic measures is to insure comparable samples in future replications.

Table 4.1: Final Subject Profile

Characteristic	Count	Percent
Male	70	38.7
Female	111	61.3
Age 18-20	43	23.8
Age 21-24	130	71.8
Age 25+	8	4.4
Undergraduate	174	96.1
Graduate student	7	3.9
Live on campus	45	24.9
Live off campus	136	75.1

It was noted at the outset that students snack on a number of items in a variety of situations. Table 4.2 presents the frequency of snacking within this sample. Table 4.3 indicates the frequency of total snacking in each of the

three situations presented in the manipulations. Table 4.4 indicates the relative frequency for snacking on fruit in each situation, and for snacking on fruit, overall.

Table 4.2: Daily Frequency of Snacking

Daily Frequency	Count	Percent
0	1	0.6
1	74	40.9
2	70	38.7
3	32	17.7
4	3	1.7
5+	1	0.6
TOTAL	181	100.0

Table 4.3: Frequency of Snacking by Situation

		Frequency				
Situation		0	1	2	3+	Total
Late night	#:	7	15	36	123	181
	%:	3.9	8.3	19.9	68.0	100.0
Between class	#:	28	29	42	82	181
	%:	15.5	16.0	23.2	45.3	100.0
After exercise	#:	94	24	28	35	181
	%:	51.9	13.3	15.5	19.3	100.0
Other situation	#:	41	21	28	91	181
	%:	22.7	11.6	15.5	50.3	100.0

Table 4.4: Frequency of Snacking on Fruit by Situation

Situation		Frequency 0	1	2	3+	Total
Late night	#:	98	37	23	23	181
	%:	54.1	20.4	12.7	12.7	100.0
Between class	#:	97	32	28	24	181
	%:	53.6	17.7	15.5	13.3	100.0
After exercise	#:	114	29	25	13	181
	%:	63.0	16.0	13.8	7.2	100.0
Other situation	#:	100	39	24	18	181
	%:	55.2	21.5	13.3	9.9	100.0
Total	#:	31	27	27	96	181
	%:	17.1	14.9	14.9	53.0	100.0

Data Recoding

In order to conduct the analysis three variables were recoded, product use, involvement, and situation. Table 4.4, above, shows that 85 of the 181 subjects consumed fruit 2 or fewer times in a typical week. These subjects were recoded as light users. The 96 subjects that consumed fruit 3 or more times were assigned to the high usage group. Subjects were also reassigned into high and low involvement groups. The scale used to measure involvement included five 7 point items. The sum of the mid-points for the scale was 20. Subjects with a score below 20 were assigned to the low involvement group. Those with scores above 20 were assigned to the high involvement group. Twelve subjects had a score of exactly 20. A random number was selected for each of these subjects. Each was assigned to the high or low involvement group based on the rank order of the random

numbers. As table 4.5, below, indicates only 28.7% of the respondents were assigned to the high involvement group. This limits the extent of analysis with the involvement measure.

Table 4.5: Distribution of Involvement

Score	Count	Percent
10 or less	9	5.0
10 to 15	31	17.1
16 to 19	83	45.8
20 (midpoint)	12	6.6
21 to 25	33	18.2
26 to 30	11	6.1
31+	2	1.1
Total	181	100.0

Note: The 12 subjects with scores of 20 were assigned a random number. The subjects with the six highest random numbers were assigned to the high involvement group. The six lowest were assigned to the low involvement group. A total of 52 subjects were in the low involvement group.

Table 4.3, above, indicates the number of subjects that snack in each of the manipulated situations. Each subject was cross-tabulated with respect to his/her exposure manipulation and snacking behavior. Each was assigned to a category based on whether he/she was exposed to a manipulation that represented a context similar to one they typically snacked in, portrayed a situation dissimilar to one they typically snacked in, or portrayed no situational context. This resulted in three levels for the situation manipulation. The three levels are: in context exposure, out

of context exposure, or no context exposure. The breakdown of context is shown in Table 4.6

Table 4.6: Distribution of In / Out / No Context Exposures

Context	Count	Percent
No context exposure	39	25
Exposed in context	74	47
Exposed out of context	43	28
Total	156	100

Impact of Manipulations on Overall Attitude

Two measures of attitude were utilized in this study. Overall attitude was measured by a three item scale anchored with bi-polar adjectives. The first six hypotheses regard the impact of the manipulations on overall attitude. The result of the tests of these hypotheses are provided, in order, below.

The initial hypothesis predicted a significant main effect for the manipulation of context. Recall that context was manipulated at three levels, no context, in context, and out-of-context. The results shown in Table 4.7 indicate a significant main effect for context. Due to the significant result a paired comparison was performed using the Tukey-B procedure. The results are shown in Table 4.8. Those results indicate that the impact on attitude of the out-of-context

manipulation was significantly lower than the impact for the in-context and no context manipulations.

Table 4.7: Overall Attitude by Manipulation In/Out/No Context

H1: The mean overall attitude score will be significantly higher when the situations presented in advertising are similar to the situations that an individual experiences.

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	180.20	90.10	11.190	0.000
Within Groups	153	1231.97	8.05		
Total	155	1412.17			

Table 4.8: Paired Comparisons For Manipulation Context

	Mean	Group 1	Group 2	Group 3
Group 1: No Context	17.895			**
Group 2: In Context	18.093			**
Group 3: Out of Context	15.628			

** denotes significantly different at 0.05 level

Significant interactions between the attribute specification and prior experience, (snacking on fruit), and a significant interaction between attribute specification and situation similarity were predicted in hypotheses H2a and H3. Due to the interactions between attribute specificity and experience different patterns of response

were predicted for high and low use segments. These were predicted in hypotheses H2b and H2c.

H2a: The attribute specificity, presented in advertising, and the level of prior experience with the attitude object will interact to impact the mean overall attitude score.

H2b: The mean overall attitude score for individuals with high levels of product experience will be significantly greater when advertising presents unique attributes.

H2c: The mean overall attitude score for individuals with low levels of product experience will be significantly greater when advertising represents common attributes.

H3: There will be a positive interaction between attribute specificity and the situation similarity presented in advertising so that the combined effect on the mean overall attitude score will be significantly greater than an additive estimate of the two individual effects.

In order to test hypotheses H2a and H3 a MANOVA was conducted with three levels of attribute specificity, two levels of experience, and three levels of situation context. The results are shown in Table 4.9 below. The null hypothesis of no interaction for attribute specification and prior use was rejected, as was the null hypothesis of no interaction between the attribute specification and situation similarity. These results are noted by asterisks in Table 4.9.

Table 4.9: Overall Attitude by Attribute Specification, by Use, and Manipulation Context

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.	
Main Effects	5	287.51	57.50	8.58	0.000	*
Attribute Specificity	2	0.06	0.03	0.01	0.995	
Fruit Snacking	1	99.12	99.12	14.80	0.000	*
Manipulation Context	2	96.41	48.21	7.20	0.001	*
Interactions (2 way)	8	183.80	22.98	3.43	0.001	*
Attributes X Snacking	2	122.95	61.48	9.18	0.000	*
Attributes X Context	4	86.20	21.55	3.22	0.015	*
Snacking X Context	2	25.22	12.61	1.88	0.156	
Interactions (3 way)	4	16.47	4.12	0.62	0.653	
Total Explained	17	487.77	28.69	4.28	0.000	*
Residual (Error)	138	924.40	6.70			
Total	155	1412.17	9.11			

* Each of these results is significant at the 0.05 level or better

Due to the number of levels in the MANOVA, and the moderate sample size, one might be concerned about the number of subjects in any cell. In order to provide for a more complete interpretation of the results two additional tables are shown. Table 4.10, below, indicates the sample count in each cell of the MANOVA. Table 4.11 presents the mean overall attitude scores in each cell.

Table 4.10: Manipulation by Use, Cell Frequencies

USE	EXPOSURE CONTEXT	COMMON	MID	UNIQUE	TOTAL
HIGH USE	NO CONTEXT	6	8	9	23
	IN CONTEXT	11	12	23	46
	OUT OF CONTEXT	2	7	4	13
LOW USE	NO CONTEXT	8	4	4	16
	IN CONTEXT	14	9	5	28
	OUT OF CONTEXT	11	12	7	30
TOTAL		52	52	52	156

Table 4.11: Manipulation by Use, Mean Attitude

USE	EXPOSURE CONTEXT	COMMON	MID	UNIQUE	TOTAL
HIGH USE	NO CONTEXT	18.1	18.3	17.8	18.1
	IN CONTEXT	17.9	18.6	18.9	18.6
	OUT OF CONTEXT	16.0	18.1	17.5	17.6
	TOTAL	17.8	18.3	18.5	18.3
LOW USE	NO CONTEXT	18.4	16.3	17.5	17.7
	IN CONTEXT	18.2	15.3	16.2	16.9
	OUT OF CONTEXT	14.5	14.6	15.6	14.6
TOTAL		16.8	15.1	15.7	16.1

The results in Tables 4.9, 4.10, and 4.11 are important not just for the effects they support. They also challenge an effect that is often claimed. Many anecdotal theories claim that uniqueness, distinctiveness, or points-of-

difference are keys to effective advertising. However, the results here underscore the importance of attribute content relative to prior experience, not uniqueness per se. One could hypothesize that uniqueness, per se, would be more effective. However, the additional analysis shown in Table 4.12 shows no support since one could not reject the null hypothesis in that instance.

Table 4.12: Overall Attitude by Attribute Specificity

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	14.00	7.00	0.766	0.467
Within Groups	153	1398.17	9.14		
Total	155	1412.17			

The presence of significant interactions between attribute specificity and product experience indicates that analysis within each use segment is warranted. One-way ANOVA tests were conducted within each segment for the effects predicted in H2-B and H2-C. These tests are shown in Tables 4.13 and 4.15 respectively. In each case the null hypothesis could not be rejected. The means and standard deviations for each use segment are shown in Tables 4.14 and 4.16. While the results were not significant the mean scores shown in those two tables are not inconsistent with the predicted directions. For the high use segment the most favorable attitudes were measured for those subjects exposed to the

unique manipulations. For the low use segment the most favorable attitude score was measured for those subjects exposed to the common attribute manipulations.

Table 4.13: Attitude by Attribute Specificity, High Use Segment

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob
Between Groups	2	31.14	15.57	2.10	0.129
Within Groups	80	592.74	7.41		
Total	82	623.88			

Table 4.14: Mean Attitude Scores for High Use Segment

Attribute Manipulation	Mean	Std Dev	Cases
Control	17.615	2.256	13
Common	17.800	3.251	19
Mid-Range	18.300	2.028	27
Unique	18.472	2.854	36
Total	18.292	2.699	95

Table 4.15: Attitude by Attribute Specificity, Low Use Segment

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob
Between Groups	2	45.99	22.99	2.91	0.061
Within Groups	70	553.33	7.91		
Total	72	599.32			

Table 4.16: Mean Attitude Scores for Low Use Segment

Attribute Manipulation	Mean	Std Dev	Cases
Control	15.815	1.901	12
Common	16.811	3.051	33
Mid-Range	15.137	2.128	25
Unique	15.712	3.054	16
Total	16.087	2.600	86

The final hypothesis regarding an impact on overall attitude suggested that subjects with low levels of product experience would be able to integrate the information on unique attributes only if they were involved in the category. A One-way ANOVA was conducted to test this hypothesis. The result, shown in Table 4.17, indicates that the null hypothesis, of no difference, cannot be rejected. Therefore hypothesis H4 does not have support.

Table 4.17: Overall Attitude by Attribute Specificity and Involvement, Low use

H4: When product experience is low and advertising presents unique attributes the mean overall attitude score will be significantly greater for persons with high category involvement than for persons with low category involvement.

Source	D.F	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	9.921	9.921	0.944	0.345
Within Groups	14	147.079	10.506		
Total	15	157.000			

Impact of Manipulations on Beliefs and Attitude Toward the Act

Additional hypotheses predicted an impact on individual beliefs, in the multi-attribute model, based on the provision of information in the manipulations. It was also predicted that the evaluative component in the model would be unaffected. These hypotheses were tested by conducting a series of Two-way ANOVA tests. This allowed for testing the main effects for attribute specificity and situational similarity, and the combined effect and interactions. The overall test statistics for each belief and each evaluative component are shown below in Tables 4.18 and 4.19. The results in those tables indicate no significant impact. Complete ANOVA tables are shown in appendices 4 and 5. Summary tables of mean scores for each belief and each evaluative component, across attribute specifications and use segments, are shown in appendix 6.

Table 4.18: Impact of Manipulations on Beliefs

H5: Each mean belief score, in a multi-attribute model of attitude toward the act, will be significantly greater when advertising presents information on the attributes relevant to that specific belief.

Belief of Consequence	F Ratio	Probability
Many Choices	1.202	0.303
Convenient	2.941	0.056
Satisfies Hunger	1.239	0.293
Economical	0.265	0.768
Low Calorie	0.071	0.931
Sweet Tasting	0.867	0.422

Table 4.19: Impact of Manipulations on Evaluations

H6: Variation in the content of the manipulations will have no significant impact on the mean evaluative scores in a multi-attribute model of attitude toward the act.

Evaluation	F Ratio	Probability
Many Choices	2.010	0.138
Convenient	1.262	0.286
Satisfies Hunger	0.042	0.959
Economical	0.460	0.632
Low Calorie	0.719	0.489
Sweet Tasting	1.285	0.280

While significant effects did not occur for the individual components of the model it is possible for the cumulative effects of the component scores to result in a significant impact on attitude toward the act. A MANOVA was conducted with three levels of attribute specificity, three levels of situation context, and two levels of involvement. The results, shown in Table 4.20 below, indicate no significant impact.

Table 4.20: Attitude Toward the Act of Consumption by Attribute Specification, Manipulation Context, and Involvement

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Main Effects	5	898.43	179.69	0.205	0.960
Attribute Specificity	2	580.21	290.10	0.331	0.719
Manipulation Context	2	288.30	144.15	0.164	0.849
Involvement	1	0.197	0.197	0.000	0.988
Interactions (2 way)	8	3145.22	393.15	0.449	0.890
Attribute X Context	4	2178.40	544.60	0.621	0.648
Attribute X Involvement	2	439.75	219.88	0.251	0.779
Involvement X Context	2	341.11	170.56	0.195	0.823
Interactions (3 way)	4	4109.96	1027.49	1.172	0.326
Total Explained	17	8153.61	479.62	0.547	0.924
Residual (Error)	138	120966.00	876.57		
Total	155	129119.61	833.03		

Relationship Between Measures of Attitude

To test for a significant relationship between the alternative measures of attitude a Pearson Product Moment Correlation was estimated. The results are shown in Table 4.21. A significant correlation was found.

Table 4.21: Correlation Between Attitudes and Intentions

H7: There will be a significant positive correlation between the measure of overall attitude and the measure of attitude toward the act.

Relationship	Correlation	R^2	Prob.
Overall Attitude & Attitude Act	0.362	0.131	0.000

Impact on Behavioral Intentions

The Fishbein Behavioral Intentions Model proposes that behaviors, (B), are mediated by behavioral intentions, (BI), which are a function of attitude toward the act, (A_{act}), normative beliefs, (NB), and motivations to comply, (Mc). The overall model is shown below.

$$B \sim BI = (A_{act})w_o + (NB(Mc))w_1$$

Prior to testing the alternative models analysis were performed to determine whether the manipulations had any direct impact on the normative beliefs or motivation to comply components of the model. These hypotheses were tested by means of Two-way ANOVA. This allowed for testing the main effects for attribute specificity and situational similarity, and the combined effect and interactions. The overall test statistics are shown below, in Table 4.22. The results in those tables indicate no significant impact. The complete ANOVA tables are shown in appendix 7.

Table 4.22: Impact of Manipulations on Components of The Fishbein Behavioral Intentions Model

H8: Variation in attributes and situations will have no significant effect on the measure of normative beliefs.

H9: Variation in attributes and situations will have no significant effect on the measure of motivation to comply.

Model Component	F Ratio	Probability
Normative Beliefs	0.632	0.533
Motivation to Comply	1.070	0.346

The final analysis involves comparing the predictive ability of Fishbein's Behavioral Intentions Model to the ability of the overall measure of attitude to predict intentions. The two models are shown below, in tables 4.23 and 4.24, respectively. The goodness-of-fit statistics indicate a clear advantage for the predictive ability of overall attitude.

Table 4.23: Regression Model 1: Behavioral Intentions as a Function of Fishbein Behavioral Intentions Model

H10: Purchase intentions for the attitude object will have a significant positive correlation with attitude toward the act of consumption behavioral norms, and the motivation to comply with the norms, as specified by Fishbein.

Variable	Coefficient	Standard Error	Beta
Attitude-Act	0.020	0.004	0.332
Norm Beliefs X Mot	0.025	0.017	0.104

Goodness of Fit

R-squared	0.131
Adjusted R-squared	0.121
Standard Error	1.695

Analysis of Variance

	df	Sum Squares	Mean Square
Regression	2	77.3	38.6
Residual	178	511.6	2.9

F = 13.4 Probability of F = 0.000

Table 4.24: Regression Model 2: Behavioral Intentions as a Function of Overall Evaluation

H11: Purchase intentions for the attitude object will have a significant positive correlation with the index of overall attitude.

Variable	Coefficient	Standard Error	Beta
Overall Attitude	0.429	0.033	0.695

Goodness of Fit

R-squared	0.483
Adjusted R-squared	0.480
Standard Error	1.304

Analysis of Variance

	df	Sum Squares	Mean Square
Regression	1	284.3	284.3
Residual	179	304.5	1.7

F = 167.1 Probability of F = 0.000

CHAPTER V: DISCUSSION

Overview

In many ways advertising effects research has been dominated by the study of message factors that impact outcomes such as beliefs and attitudes. The use of multi-attribute models has been an integral part of this tradition. It is only recently that attention has been given to how integrated associative structures, such as memory schema, help consumers to assimilate, integrate, and retrieve information.[1] The results of this study are inconsistent with a multi-attribute, analytic, view of attitude change. The results are consistent with hypotheses derived from research on cognitive structure, the representation of attitudes, and categorization. These areas of research offer alternatives to an analytic process of product evaluation. The bases for these conclusions are discussed below, in more detail.

Findings and Implications

The conclusions above are based on the support found for hypotheses that predicted effects due to situational similarity, interactions between attribute specificity and experience, and attribute specificity and situational similarity. Specifically, these are hypotheses H1, H2a, and H3. These findings are important because they were derived from proposals for functionally relevant categorization by

Barsalou,[2] and by Brooks,[3] that were applied to consumer behavior by Cohen and Basu,[4] and Sujan.[5] These proposals, and the results here, do not argue for any specific schema model. However, the fact that response to message content varies with prior experience suggests that processing operations do not invovle the independent analysis of the discrete items of information in a message. Instead the results suggest that the processing operations involve some form of integrated cognitive representation. Further, since the manipulations were based on category level variations in attributes the results suggest that product knowledge is organized around product categories not around the specific attributes of specific products. Therefore, the proposals noted above and the results here support the use of message strategies that are organized around category experience, not specific product beliefs. When specifying attributes in advertising one needs to be aware of the structure of category attributes, and the way that different use segments respond to them. The same is true for experience, which is discussed in more depth later.

These findings are also important because they provide evidence against some simplistic prescriptions for advertising strategy. For example, Snyder and Fromkin suggest that individuals seek uniqueness for its own sake.[6] Suggestions of this sort are often used in support of strategies such as the unique-selling-proposition. Recently

concerns have been voiced due to the belief that unique, in practical applications, may often mean "phony."[7] It is not uncommon for marketers to attempt to differentiate their products when the products are not different. The results here indicate that it is not uniqueness, as such, but information in relation to category experience that is an important factor in attitude change.

In contrast, tests of several more specific hypotheses were not significant. These were hypotheses H2b, H2c, and H4, predicting systematic patterns of response within each use segment. Despite the lack of significance the results were not inconsistent with predictions, nor did they suggest that predicted patterns of response were not possible. The lack of significance may be due, in part, to the idiosyncracies of the attitude object selected for this study. First, attitudes going in were very high. The mean score for the control group was 16.7 out of a maximum of 21. One cannot expect substantial change in attitude if attitudes are already high. This is particularly true when statistical tests are executed with the smaller sub-group sample sizes.

One concern with findings that support schema-driven processes is that alternative explanations are not always ruled out.[8] However, this study was designed to rule out several potential alternatives. If a multi-attribute explanation was plausible the variation in beliefs would

account for a significant part of the experimentally induced variation in overall brand attitudes. Clearly, the test of hypothesis H5 indicates that this was not so. One could ask if the failure of a multi-attribute model to account for variation in overall attitude might be due to low levels of category involvement. However, if this were true the variance in overall attitude would be attributed to peripheral message cues, not variation in message content.[9] This would be a concern if each manipulation were different in style or visual content. However, the visual and verbal elements were held constant across the manipulations, in order to avoid the variations in peripheral cues that are often associated with varied response in low involvement processing tasks.

Given the lack of support for a multi-attribute model one can conclude that any variation in behavioral intentions was not the result of a considered weighing of the separable consequences of action. The substantially greater ability of overall attitude to predict behavioral intentions suggests support for behavioral mediation by way of a non-analytic process of product evaluation rather than an analytic process.

Beyond the implications for strategy these findings may be used to view past studies in a new light. The criteria for selecting items of information, in research manipulations, is often left to the intuition of the

investigator. Some studies may have unwittingly manipulated content in terms of unique or common attributes, or situations. This could affect outcomes in a way that is consistent with, but not due to, their variables of interest. For example, the difference in response to "feeling" vs. "thinking" ads reported by Vaughn may be due, in part, to systematic variation in content because thinking ads often deal with specific concrete product information.[10]

The same problem may occur in studies investigating the response to verbal and visual advertising content. If including a visual portrayal with verbal information provides more attribute information than a verbal message alone a difference in impact cannot be attributed wholly to a difference in visual or verbal processing. The same would be true if the visual elements suggest situations that are similar to experience, and therefore evoke some level of script-driven processing.

The findings of this study also have several important practical implications. A significant amount of money is spent to create and communicate specialized product positions. The results of this study support the case that judgements of product positions involve judgements of a product concerning category membership. This may include judgements about the distinctiveness of a particular product or brand. In either case it suggests that a perceived link to the category facilitates the evaluation of a product. The

need for linking a product to a category may provide a compelling rationale for using comparative advertising. If a brand is a well entrenched category leader then it is likely to be used as a reference point in processing category relevant information.[11] A category is often defined in terms of a leader, (e.g., Coke). Several studies have established a relationship between category leadership, category typicality, and preference.[12] Johnson and Horne found that comparative ads promote associations between compared brands.[13] Gorn and Weinberg showed that comparative advertising improved the perception of similarity between the advertised brand and the category leader.[14] This would suggest that successfully comparing a product to the category leader could help to position the product as a preferred member of the category.

While a products position relative to other products may be important this study also indicates that associations to situations are important in evaluating a product. In this respect one must note that this study used a very broad measure for situation. The measure required the subject to respond only to a general time or situation. Therefore, the notion of situational similarity is equally broad. Some discussions of advertising strategy indicate that situational portrayals that are slightly dissimilar to experience can be useful in eliciting a positive response to advertising. This is true if the advertisement portrays a

situation that consumers aspire to.[15] Rossiter and Percy suggest that the degree of similarity in a portrayal is not the critical issue. It is the ability of the viewer to put themselves into the situation by covertly participating in the action that is important.[16] The results here are not inconsistent with either of these positions. Advertising strategy is often based on a slice-of-life approach where the copy theme is built around a situational portrayal. The situations may be chosen based on strategy research. However, variations in props, actors, and specific scenes are often left to the intuition of the copywriter. Although the general situation may be consistent with the experience of a target segment the specifics of a portrayal may be inconsistent. This may impact the ability of the viewer to put themselves into the ad. Because this study showed a decided disadvantage for a message with a dissimilar use context one should be cautious of the latitude of situational similarity, and the potential for factors in a portrayal to mentally distance the consumer. From a practical standpoint a more explicit accounting of situational congruence in strategy and copy research is in order. From a theoretical perspective the notion of situational similarity must be more adequately defined. In this regard Rossiter and Percy's idea of covert mental participation appears to be the one theory that is most consistent with the results found in this study.[17] In

addition, widely accepted methods, such as cognitive response techniques, could be applied to the idea of covert mental participation.

If portrayals of situational similarity can be used to advantage there still may be other practical concerns. Efforts to increase situational similarity, in order to enhance the effect on overall attitude, may come at the cost of utilizing tactics for achieving other important communication processes or goals. In a real-world setting, when messages compete for attention, the portrayal of a situation that is similar to a typical product usage situation may be inconsistent with gaining attention. Many of our real-life situations are a bit too mundane. Unusual executions can be useful in gaining initial attention, or enhancing certain types of brand learning, particularly brand recall.[18]

Additional tradeoffs involve attempts to portray unique or common attributes to create a position. In a case where attempts are made to create a position with unique attributes the message may be congruent with, and effective to, only to a small segment of the target market. In the case of positioning with common attributes the message may have little impact if it provides no basis for preferential evaluation. If leverage is gained from unique versus general executions there is a practical tradeoff. There are costs involved in testing and producing multiple advertising

executions. In addition, within a limited budget one must insure that each message receives sufficient exposure frequency so that its communication potential can be realized. Fortunately, these costs are easily estimated, and the results of this study indicate that real increments in effectiveness can be achieved. However, additional research findings are needed in order to make reasonable estimates of the cost/benefit ratio. These include findings to improve estimates of the size of the effects that may be expected, and indications of the degree to which the effect of attitude-object-specificity is mediated by message repetition.

Future Research Directions

Although the results of this study are consistent with hypotheses of schema-consistent dynamics there are still unanswered questions. Some are due to the limitations of a single study. Several of the questions were discussed above. Two specific limitations occurred that could not be fully expected during the design of the experiment. One deals with the fact that initial attitudes were very favorable. One cannot expect much of an improvement in attitudes when they are high to begin with. The second limitation concerns the fact that involvement, for the category studied, was very low. One might expect involvement to mediate the likelihood of schema-driven processes. Whether the kinds of messages that are likely to evoke schema-driven processing tend to

preempt involved processing is a question with clear theoretical and practical implications. Therefore, the most straightforward replications and extensions of the study should deal with similar designs, but different products and product classes where both involvement and prior attitudes are more varied.

A critical research direction from a practical perspective is whether common and unique attributes, working in combination, can elicit a more favorable response than common or unique attributes alone. In principle, this would be a straightforward test, with three levels for the executions, common attributes only, unique attributes only, and a mix of common and unique attributes. The expectation would be that linking the object to the category, and providing a basis for differential preference, would be most influential in affecting attitude. However, an alternate hypothesis is that a combination of common and unique attributes could be inconsistent with the experience of some consumers of the attitude object. In that case schema-driven processes would be unlikely. One should also be concerned with the order in which attributes are portrayed. Since the objective is to evoke schema-driven processes the initial stages of processing are critical. One would expect that common attributes, which are the most consistent link to category experience, would be most effective if presented first.

Concluding Comments

This study adds to a growing body of evidence that supports the view that reasoned processes of attitude formation that consider information on a piece by piece basis may not apply to many aspects of consumer behavior. In particular, substantial support is provided to the position that schema-consistent dynamics provide a major influence on attitude change induced by exposure to persuasive communications. Further, the study demonstrates a method to explicitly test for schema-consistent explanations relative to the more analytic processes of attitude change.

Endnotes

[1]Joel Cohen and Dipankar Chakravarti, "Consumer Psychology," Annual Review of Psychology 41 (1990): 243-288.

[2]Lawrence W. Barsalou, "Ad Hoc Categories," Memory and Cognition 11 (1983): 211-27.

[3]Lee R. Brooks, "Decentralized Control of Categorization: The Role of Prior Processing Episodes," Categories Reconsidered The Ecological and Intellectual Basis of Categories, ed. Ulrich Neisser, (Cambridge: Cambridge University Press, 1986), 1-61.

[4]Joel B. and Kunal Basu, "Alternative Models of Categorization: A Contingent Processing Framework," Journal of Consumer Research 13 (1987): 455-72.

[5]Mitta Sujan, "Consumer Knowledge: Effects on Evaluation
Strategies Mediating Consumer Judgements," Journal of Consumer Research 12 (1985): 31-46.

[6]C.R. Snyder and Howard L. Fromkin. Uniqueness: The Human
Pursuit of Difference, (New York: Plenum Press, 1977).

[7]Dennis Chase, "Can the USP Survive in a World of Parity Products," Advertising Age (September 21, 1992):48.

[8]Joseph W. Alba and Lynn Hasher, "Is Memory Schematic?" Psychological Bulletin 93 (1983): 203-231.

[9]Richard E. Petty and John T. Cacioppo, "Central and Peripheral Routes to Persuasion: Application to Advertising," Advertising and Consumer Psychology, ed. Larry Percy and Arch G. Woodside, (Lexington, MA: D.C. Heath, 1983), 3-23.

[10]Richard Vaughn, How Advertising Works, (Chicago: FCB Communications, 1980).

[11]Carolyn Mervis and Eleanor Rosch, "Categorization of Natural Objects," Annual Review of Psychology 32 (1981): 89-115.

[12]Ibid.

[13]Michael D. Johnson and David A. Horne, "The Contrast Model of Similarity and Comparative Advertising," Psychology in Marketing 5 (1988): 211-232.

[14]Gerald J. Gorn and C.B. Weinberg, "The Impact of Comparative Advertising on Perception and Attitude: Some Positive Findings," Journal of Consumer Research 11 (1984): 719-27.

[15]William O. Bearden and A.D. Shocker, "Reference Group Influence on Product and Brand Choice," Journal of Consumer Research 9 (1982): 183-194.

[16]John R. Rossiter and Larry Percy, "Visual Communication in Advertising," Information Processing in Advertising, ed. Richard Harris, (Hillsdale, NJ: Lawrence Erlbaum and Associates, 1983), 83-125.

[17]Ibid.

[18]Stanley W. Hollander and Jacob Jacoby, "Recall of Crazy, Mixed-up TV Commercials," Journal of Advertising Research 13 (1973): 39-42.

APPENDIX 1: PRE-TEST INSTRUMENT

PLEASE READ THE FOLLOWING COMPLETELY

This is a simple test to identify the characteristics and attributes normally associated with some everyday objects. Completing this experiment will take about 15 minutes. You are free to discontinue your participation at any time. If you wish to remain anonymous DO NOT write your name on this questionnaire. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Any questions regarding this study should be directed to Mark Maiville at the Advertising Department Office, 309 CAS.

LIST AS MANY SNACK FOOD ITEMS AS YOU CAN THINK OF. PLEASE WRITE THEM IN THE ORDER YOU THINK OF THEM.

PLACE THE NAME OF THE FIRST ITEM, FROM THE LIST ABOVE, HERE.

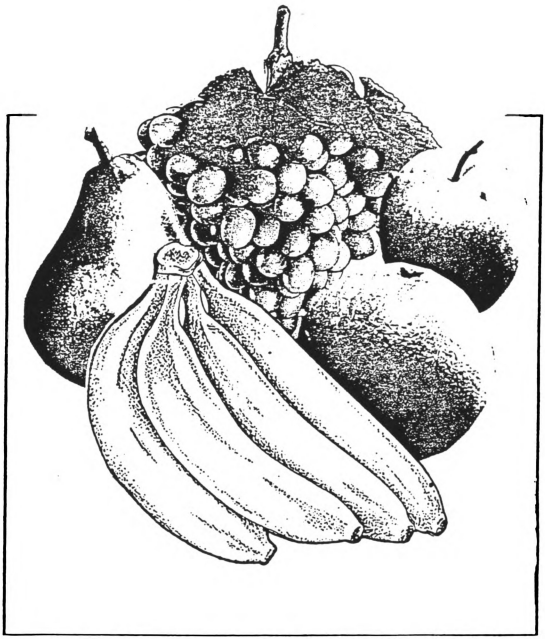
What are the attributes used to describe this food?

PLACE THE NAME OF THE SECOND ITEM HERE.

What are the attributes used to describe this food?

APPENDIX 2: MANIPULATIONS

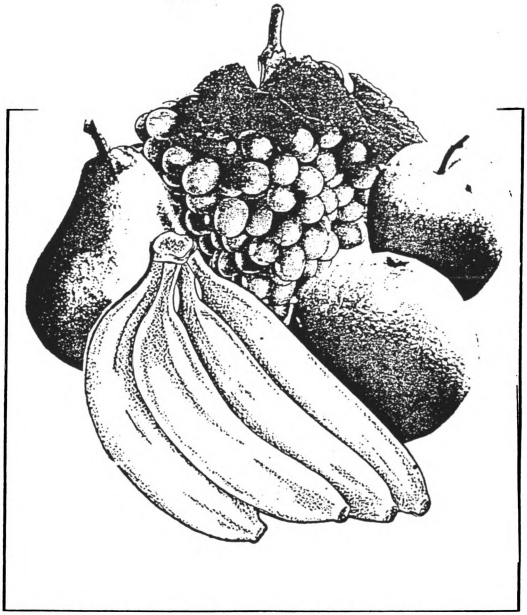
The manipulations are shown on the following pages in the following order.



THE SNACK THAT'S SO CONVENIENT,
WITH SO MANY VARIETIES

- All the variety of fresh fruit
- Comes in convenient single serving sizes
- A choice for everyone
- It's ready to eat, no preparation

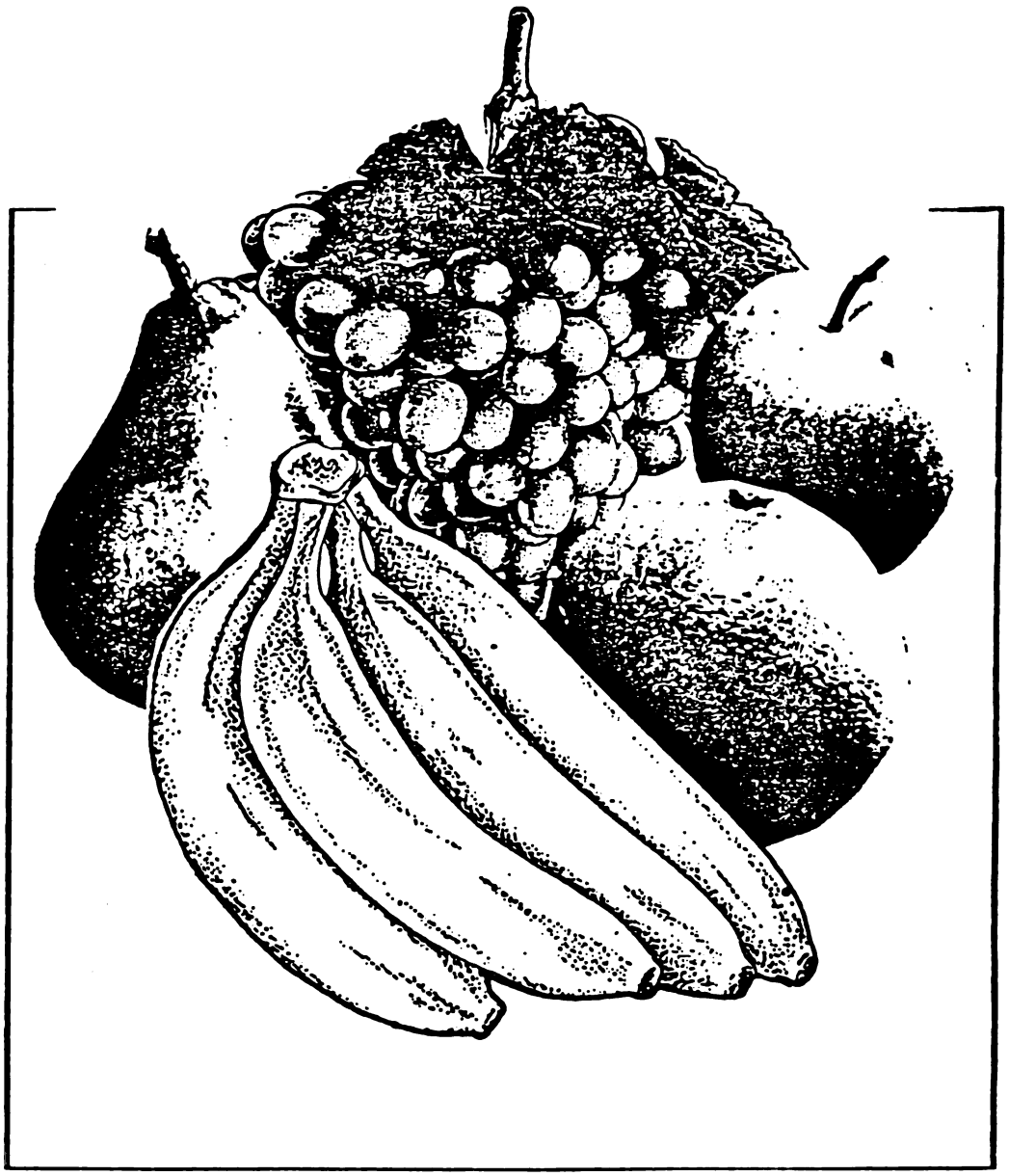
Sponsored by the American Association of Fruit Producers



THE LATE NIGHT SNACK THAT'S SO CONVENIENT, WITH SO MANY VARIETIES

- All the variety of fresh fruit
- Comes in convenient single serving sizes
- A choice for everyone
- It's ready to eat, no preparation

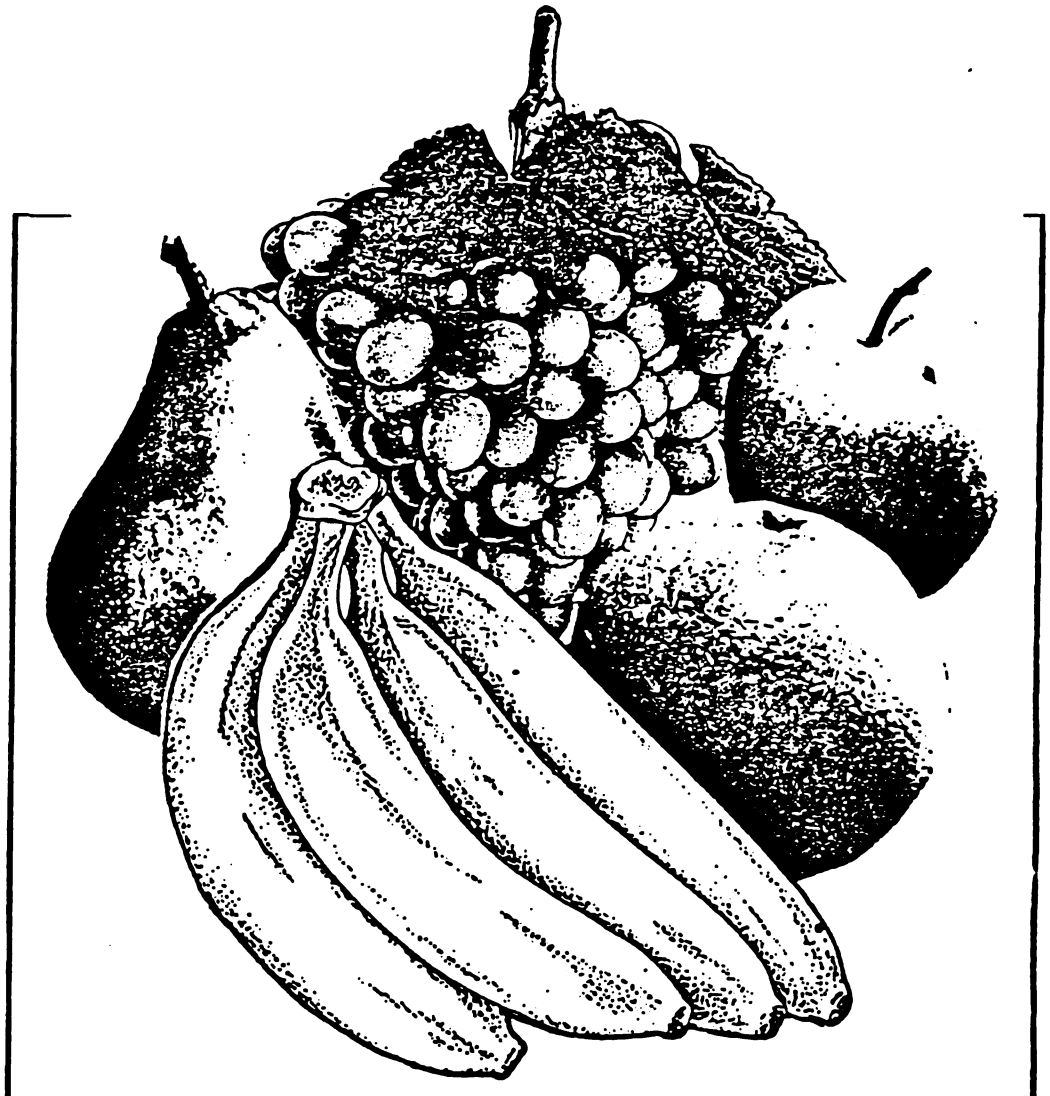
Sponsored by the American Association of Fruit Producers



THE BETWEEN CLASS SNACK THAT'S SO CONVENIENT, WITH SO MANY VARIETIES

- All the variety of fresh fruit
- Comes in convenient single serving sizes
- A choice for everyone
- It's ready to eat, no preparation

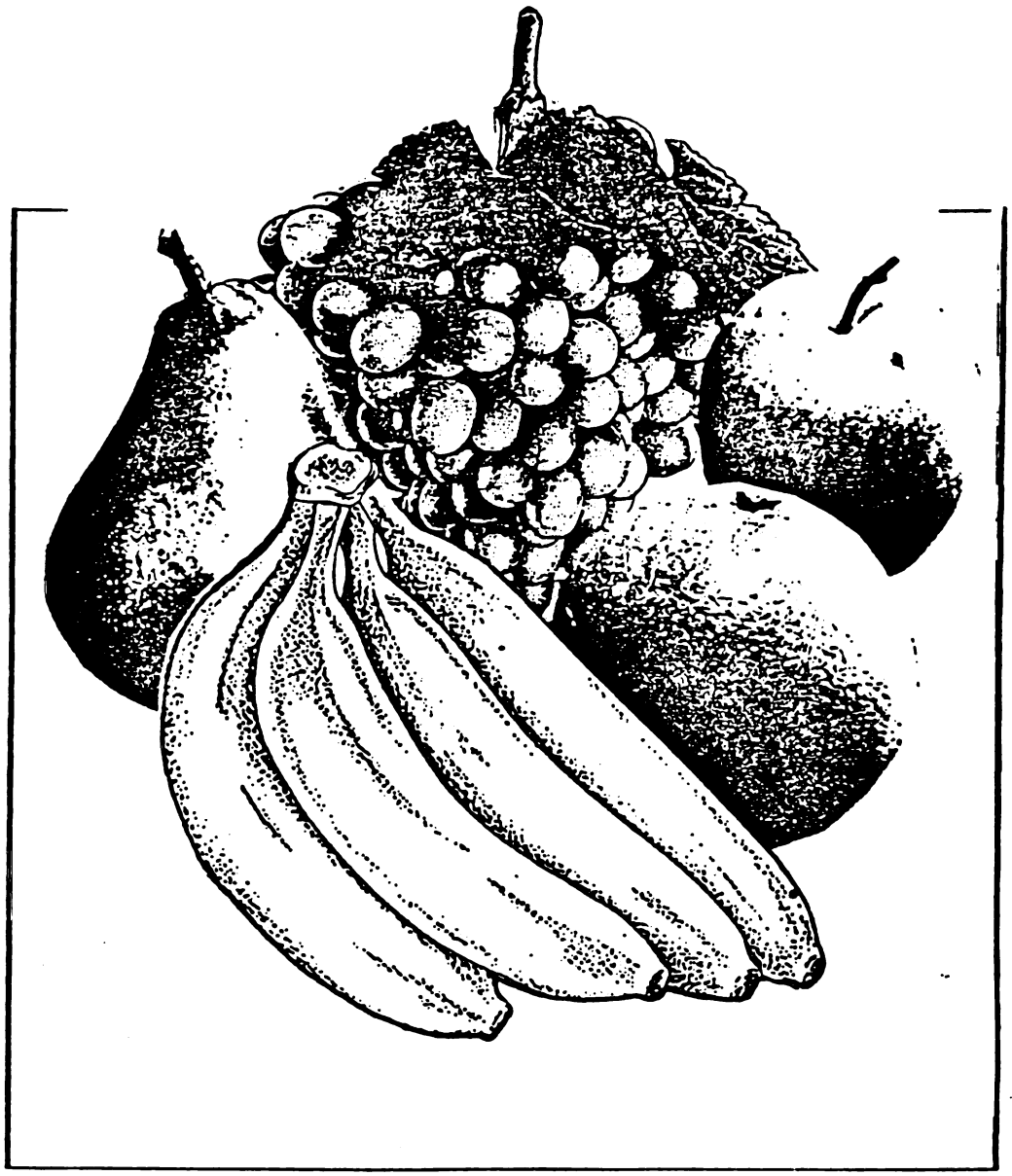
Sponsored by the American Association of Fruit Producers



THE AFTER EXERCISE SNACK THAT'S SO CONVENIENT, WITH SO MANY VARIETIES

- All the variety of fresh fruit
- Comes in convenient single serving sizes
- A choice for everyone
- It's ready to eat, no preparation

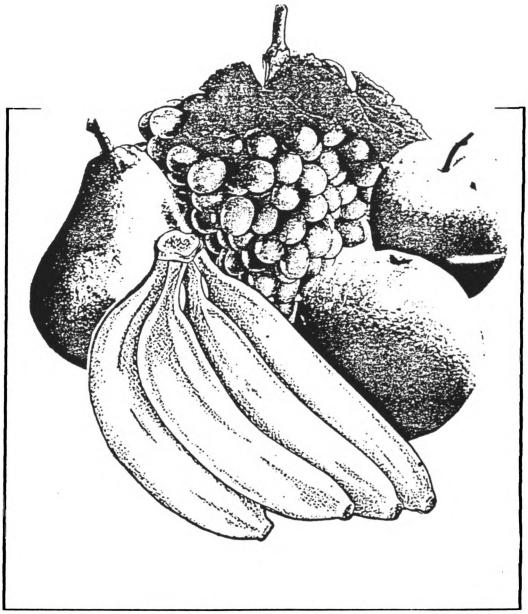
Sponsored by the American Association of Fruit Producers



THE SNACK THAT'S INEXPENSIVE AND SATISFIES YOUR HUNGER

- A single serving of fresh fruit fills you up
- A typical serving costs less than 50 cents
- Satisfaction that lasts
- You don't pay for packaging or processing

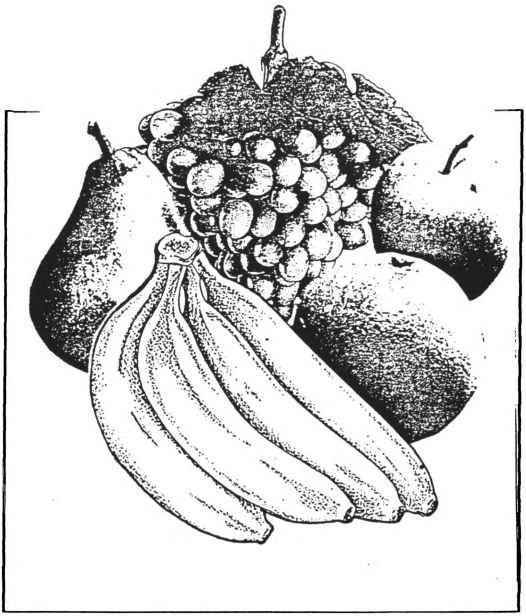
Sponsored by the American Association of Fruit Producers



THE LATE NIGHT SNACK THAT'S INEXPENSIVE AND SATISFIES YOUR HUNGER

- A single serving of fresh fruit fills you up
- A typical serving costs less than 50 cents
- Satisfaction that lasts
- You don't pay for packaging or processing

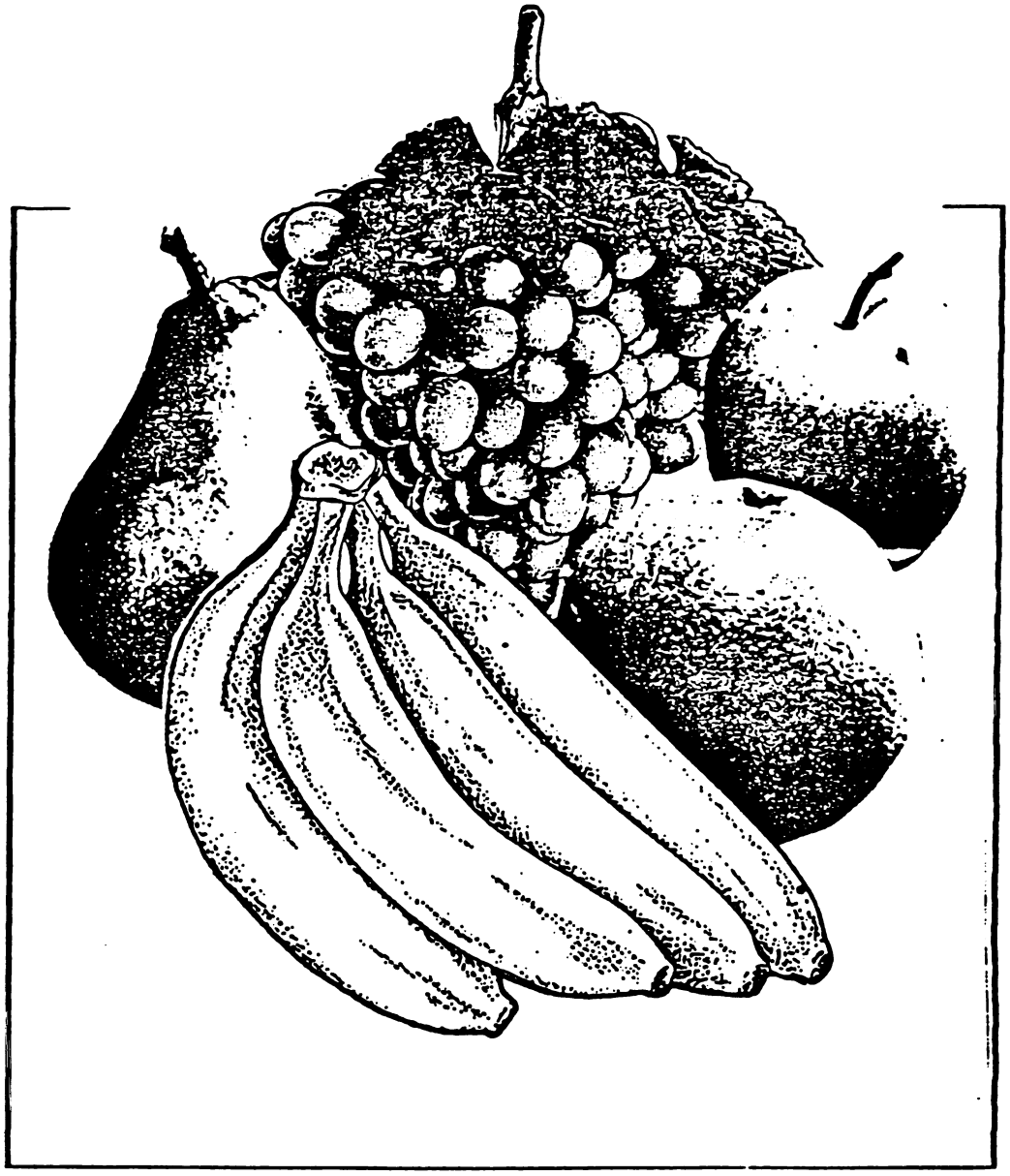
Sponsored by the American Association of Fruit Producers



THE BETWEEN CLASS SNACK THAT'S
INEXPENSIVE AND SATISFIES YOUR HUNGER

- A single serving of fresh fruit fills you up
- A typical serving costs less than 50 cents
- Satisfaction that lasts
- You don't pay for packaging or processing

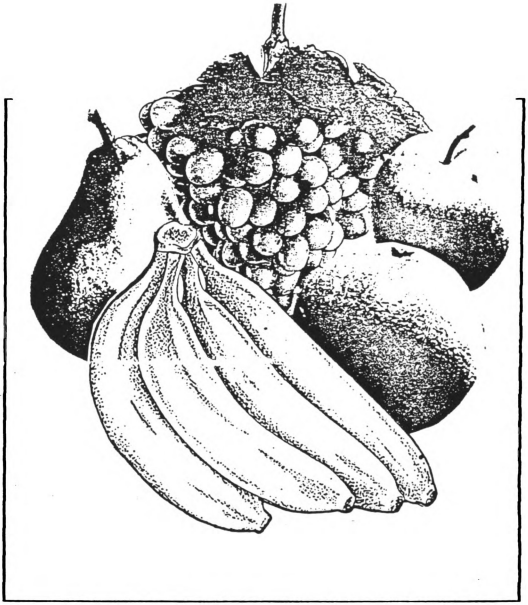
Sponsored by the American Association of Fruit Producers



THE AFTER EXERCISE SNACK THAT'S
INEXPENSIVE AND SATISFIES YOUR HUNGER

- A single serving of fresh fruit fills you up
- A typical serving costs less than 50 cents
- Satisfaction that lasts till meal-time
- You don't pay for packaging or processing

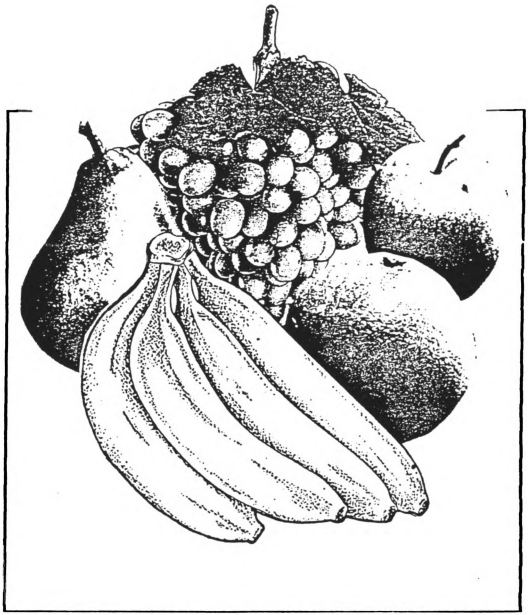
Sponsored by the American Association of Fruit Producers



THE SNACK WITH SO MUCH SWEETNESS,
SO FEW CALORIES

- Fresh fruit is full of sweet flavor
- A typical serving is under 100 calories
- Full of sweet tasting enjoyment
- It doesn't weigh you down

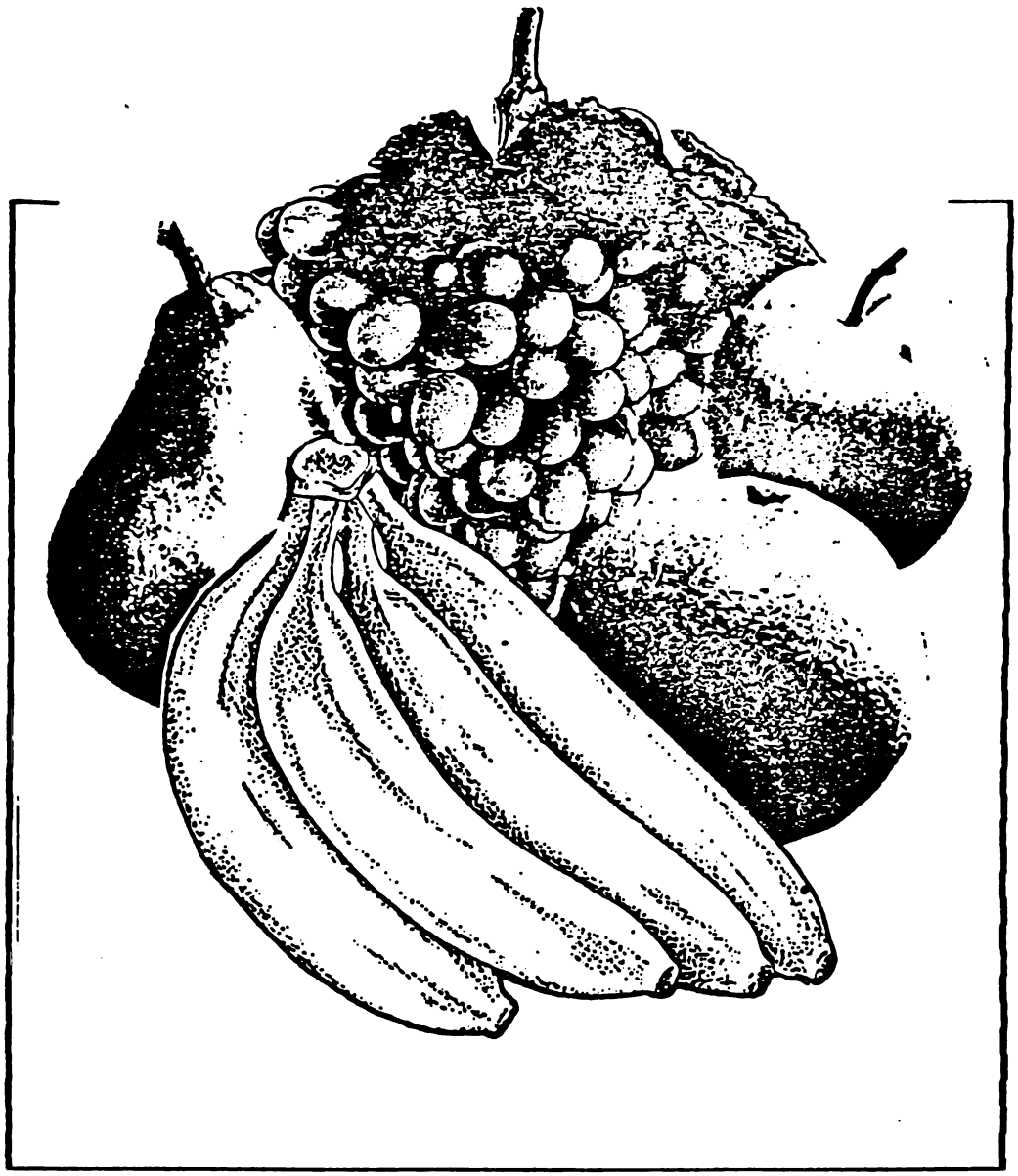
Sponsored by the American Association of Fruit Producers



THE LATE NIGHT SNACK WITH SO MUCH SWEETNESS, SO FEW CALORIES

- Fresh fruit is full of sweet flavor
- A typical serving is under 100 calories
- Full of sweet tasting enjoyment
- It doesn't weigh you down

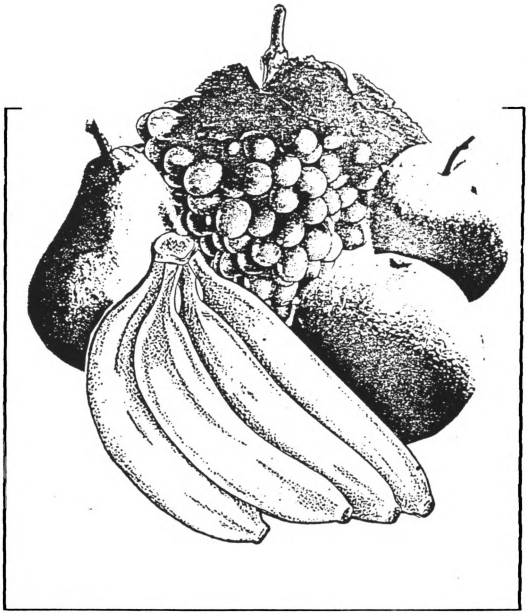
Sponsored by the American Association of Fruit Producers



THE BETWEEN CLASS SNACK WITH SO MUCH SWEETNESS, SO FEW CALORIES

- Fresh fruit is full of sweet flavor
- A typical serving is under 100 calories
- Full of sweet tasting enjoyment
- It doesn't weigh you down

Sponsored by the American Association of Fruit Producers



THE AFTER EXERCISE SNACK WITH SO MUCH SWEETNESS, SO FEW CALORIES

- Fresh fruit is full of sweet flavor
- A typical serving is under 100 calories
- Full of sweet tasting enjoyment
- It doesn't weigh you down

Sponsored by the American Association of Fruit Producers

APPENDIX 3: MEASURES

PLEASE READ THE FOLLOWING COMPLETELY

This is a simple experiment to gauge your reaction to some advertisements. Completing this experiment will take about ten minutes. You are free to discontinue your participation at any time. If you wish to remain anonymous DO NOT write your name on the questionnaire. Any questions regarding this study should be directed to Mark Maiville at the Advertising Department Office, 309 CAS.

Attached to this cover sheet is a questionnaire. At this time please respond to the items ON THE FIRST PAGE, ONLY. Then wait for further instructions.

SELECT THE ITEMS THAT APPLY TO YOU

MALE _____ FEMALE _____

AGE 18-20 _____ AGE 21-24 _____ AGE 25+ _____

UNDERGRAD _____ GRADUATE STUDENT _____

LIVE ON CAMPUS _____ LIVE OFF CAMPUS _____

FOR EACH OF THE FOLLOWING ITEMS CIRCLE THE NUMBER THAT BEST INDICATES HOW YOU PERCEIVE THE ACTIVITY OF SNACKING AND HOW YOU PERCEIVE SNACK FOODS. MAKE SURE YOU COMPLETE ALL ITEMS.

Boring to me 1 : 2 : 3 : 4 : 5 : 6 : 7 Interesting to me

Totally unconcerned about 1 : 2 : 3 : 4 : 5 : 6 : 7 Highly concerned about

Important to me 1 : 2 : 3 : 4 : 5 : 6 : 7 Unimportant to me

Care a lot about 1 : 2 : 3 : 4 : 5 : 6 : 7 Couldn't care less about

Is relevant to me 1 : 2 : 3 : 4 : 5 : 6 : 7 Is irrelevant to me

SELECT THE ONE ITEM THAT BEST REPRESENTS YOUR SNACKING BEHAVIOR

NEVER SNACK _____

SNACK ONCE A DAY _____

SNACK TWICE A DAY _____

SNACK THREE TIMES A DAY _____

IF MORE THAN THREE INDICATE HOW MANY TIMES A DAY _____

PLEASE STOP, WAIT FOR MORE INSTRUCTIONS

IN THE BOXES BELOW CIRCLE THE APPROXIMATE NUMBER OF TIMES THAT YOU CONSUME EACH OF THE SNACK ITEMS, IN EACH OF THE SITUATIONS, IN A TYPICAL WEEK.

	Evening Late Night Relaxing	Between Classes	After Exercise or Physical Activity	Other Situation
Candy / Candy Bars	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Cookies / Pastry / Donuts	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Potato / Corn Chips	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Nachos	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Popcorn	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Fresh Fruit	1 2 3+	1 2 3+	1 2 3+	1 2 3+
Other Snack	1 2 3+	1 2 3+	1 2 3+	1 2 3+

FOR EACH OF THE FOLLOWING ITEMS CIRCLE THE NUMBER THAT IS THE BEST INDICATOR OF HOW YOU THINK OR FEEL

My friends / family believe that snacking on fresh fruit is a good idea

Strongly Agree 1 : 2 : 3 : 4 : 5 : 6 : 7 Strongly Disagree

Snacking on foods that my friends / family think are good is a good idea.

Strongly Agree 1 : 2 : 3 : 4 : 5 : 6 : 7 Strongly Disagree

As a snack fresh fruit is:

Very Good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Bad

Very Appealing 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unappealing

Very Enjoyable 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unenjoyable

How likely are you to snack on fresh fruit in the next week

Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

INDICATE THE DEGREE TO WHICH THE FOLLOWING STATEMENTS INDICATE SOMETHING THAT IS VERY LIKELY OR VERY UNLIKELY TO BE ASSOCIATED WITH SNACKING ON FRUIT

When eating fruit as a snack I have many choices Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Fruit is a convenient snack Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

When snacking on fruit my hunger is satisfied Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Snacking on fruit is economical Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Snacking on fruit helps me watch my calories Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

Fruit is a sweet tasting snack Very Likely 1 : 2 : 3 : 4 : 5 : 6 : 7 Very Unlikely

INDICATE THE DEGREE TO WHICH THE FOLLOWING STATEMENTS INDICATE SOMETHING GOOD OR BAD ABOUT SNACKING ON FRUIT

When snacking on fruit I have many choices Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Snacking on fruit is convenient Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

When snacking on fruit my hunger is satisfied Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Snacking on fruit is economical Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Snacking on fruit helps me watch my calories Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

Fruit is a sweet tasting snack Very good 1 : 2 : 3 : 4 : 5 : 6 : 7 Very bad

APPENDIX 4: ANOVA TABLES FOR THE IMPACT OF MANIPULATIONS ON BELIEFS

Many Choices (Variety)

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	12.189	3.047	1.255	0.291
Attribute specificity	2	5.846	2.923	1.203	0.303
Situation similarity	2	6.176	3.088	1.272	0.283
Two-way interaction	4	6.236	1.559	0.642	0.633
Explained	8	18.425	2.303	0.948	0.479
Error	147	357.011	2.429		
Total	155	375.436	2.422		

Convenient

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	18.788	4.697	1.753	0.141
Attribute specificity	2	15.759	7.879	2.941	0.056
Situation similarity	2	2.545	1.272	0.475	0.623
Two-way interaction	4	2.922	0.730	0.273	0.895
Explained	8	21.710	2.714	1.013	0.429
Error	147	393.899	2.680		
Total	155	415.609	2.681		

Satisfies Hunger

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	5.602	1.400	0.711	0.586
Attribute specificity	2	4.880	2.440	1.239	0.293
Situation similarity	2	0.487	0.243	0.123	0.884
Two-way interaction	4	1.048	0.262	0.133	0.970
Explained	8	6.650	0.831	0.422	0.906
Error	147	289.581	1.970		
Total	155	296.231	1.911		

Economical

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	10.026	2.506	1.025	0.396
Attribute specificity	2	1.293	0.647	0.265	0.768
Situation similarity	2	9.397	4.699	1.922	0.150
Two-way interaction	4	5.815	1.454	0.595	0.667
Explained	8	15.841	1.980	0.810	0.595
Error	147	359.307	2.444		
Total	155	375.147	2.420		

Low Calorie

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	6.557	1.639	0.516	0.724
Attribute specificity	2	0.452	0.226	0.071	0.931
Situation similarity	2	5.929	2.964	0.933	0.396
Two-way interaction	4	10.217	2.554	0.804	0.524
Explained	8	16.774	2.097	0.660	0.726
Error	147	466.835	3.176		
Total	155	483.609	3.120		

Sweet Tasting

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	4.590	1.148	0.700	0.593
Attribute specificity	2	2.841	1.420	0.867	0.422
Situation similarity	2	1.706	0.853	0.521	0.595
Two-way interaction	4	7.562	1.890	1.154	0.334
Explained	8	12.152	1.519	0.927	0.496
Error	147	240.848	1.683		
Total	155	253.000	1.623		

APPENDIX 5: ANOVA TABLES FOR THE IMPACT OF MANIPULATIONS ON EVALUATIONS

Many Choices (Variety)

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	8.175	2.044	1.261	0.288
Attribute specificity	2	6.513	3.256	2.010	0.138
Situation similarity	2	1.623	0.812	0.501	0.607
Two-way interaction	4	12.619	3.155	1.947	0.106
Explained	8	20.793	2.599	1.604	0.128
Error	147	238.200	1.620		
Total	155	258.994	1.671		

Convenient

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	6.111	1.528	0.823	0.512
Attribute specificity	2	4.686	2.343	1.262	0.286
Situation similarity	2	1.405	0.703	0.379	0.685
Two-way interaction	4	7.743	1.936	1.043	0.387
Explained	8	13.854	1.732	0.933	0.491
Error	147	272.832	1.856		
Total	155	286.686	1.850		

Satisfies Hunger

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	3.314	0.828	0.437	0.781
Attribute specificity	2	0.159	0.080	0.042	0.959
Situation similarity	2	3.147	1.574	0.831	0.438
Two-way interaction	4	1.269	0.317	0.167	0.955
Explained	8	4.582	0.573	0.302	0.964
Error	147	278.392	1.894		
Total	155	282.974	1.826		

Economical

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	4.612	1.153	0.632	0.640
Attribute specificity	2	1.680	0.840	0.460	0.632
Situation similarity	2	2.266	1.133	0.621	0.539
Two-way interaction	4	3.698	0.925	0.507	0.731
Explained	8	8.310	1.039	0.569	0.802
Error	147	268.171	1.824		
Total	155	276.481	1.784		

Low Cost

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	4.849	1.212	0.828	0.509
Attribute specificity	2	2.106	1.053	0.719	0.489
Situation similarity	2	2.682	1.341	0.916	0.402
Two-way interaction	4	4.298	1.074	0.743	0.570
Explained	8	9.147	1.143	0.781	0.620
Error	147	215.212	1.464		
Total	155	224.359	1.447		

Sweet Tasting

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	4.736	1.184	0.798	0.528
Attribute specificity	2	3.814	1.907	1.285	0.280
Situation similarity	2	0.839	0.420	0.283	0.754
Two-way interaction	4	2.265	0.566	0.382	0.822
Explained	8	7.001	0.875	0.590	0.785
Error	147	218.146	1.484		
Total	155	225.147	1.453		

APPENDIX 6: SUMMARY TABLES FOR DEPENDENT MEASURES

Attitudes, Intentions, Norm Beliefs, Motivation to Comply

Low Use Subjects	#	Statistic	Overall Attitude	Attitude Act	Intention	Normative Belief	Motivation Comply
Low Use Control	12	Mean	15.8	37.1	3.5	2.8	3.1
		Std Dev	1.9	29.9	1.7	1.7	1.2
Common Attribute Manipulation	32	Mean	17.0	56.1	3.1	2.3	3.5
		Std Dev	3.0	27.3	1.9	1.4	1.3
Mid Attribute Manipulation	25	Mean	15.2	53.9	4.0	2.1	3.1
		Std Dev	2.1	28.7	1.4	1.7	1.5
Unique Attribute Manipulation	16	Mean	16.3	42.6	4.1	2.3	3.6
		Std Dev	3.1	29.4	1.9	1.4	1.6

High Use Subjects	#	Statistic	Overall Attitude	Attitude Act	Intention	Normative Belief	Motivation Comply
High Use Control	13	Mean	17.6	76.6	1.5	1.8	3.7
		Std Dev	2.2	32.3	1.1	0.9	1.7
Common Attribute Manipulation	20	Mean	17.4	70.5	2.7	2.4	3.5
		Std Dev	3.2	25.2	1.8	1.6	1.4
Mid Attribute Manipulation	27	Mean	18.3	64.6	1.9	1.9	3.4
		Std Dev	2.0	22.8	1.1	1.2	1.7
Unique Attribute Manipulation	36	Mean	18.5	63.1	2.2	2.2	3.8
		Std Dev	2.8	31.1	1.5	1.4	1.7

Summary of Belief Scores

Low Use Subjects	#	Statistic	Many Choices	Con-venient	Satisfies Hunger	Eco-nomical	Low Calories	Sweet Tasting
Low Use Control	12	Mean	3.8	3.8	3.6	4.6	5.4	5.1
		Std Dev	1.5	1.5	1.8	1.3	1.8	1.0
Common Attribute Manipulation	32	Mean	5.3	5.4	4.9	4.9	5.4	5.1
		Std Dev	1.1	1.0	1.3	1.5	1.9	1.3
Mid Attribute Manipulation	25	Mean	4.5	5.0	4.5	4.8	5.6	5.3
		Std Dev	1.5	1.7	1.4	1.5	1.6	1.3
Unique Attribute Manipulation	16	Mean	4.4	4.5	4.1	4.4	5.4	5.6
		Std Dev	1.5	2.0	1.3	1.8	1.5	1.0

High Use Subjects	#	Statistic	Many Choices	Con-venient	Satisfies Hunger	Eco-nomical	Low Calories	Sweet Tasting
High Use Control	13	Mean	5.0	5.9	5.2	5.8	6.5	6.2
		Std Dev	1.7	1.2	1.4	1.8	0.9	0.9
Common Attribute Manipulation	20	Mean	4.9	5.4	5.3	5.0	6.3	5.7
		Std Dev	1.8	1.9	1.4	1.6	1.4	1.2
Mid Attribute Manipulation	27	Mean	5.2	5.6	4.7	4.8	5.6	5.9
		Std Dev	1.6	1.4	1.1	1.5	2.0	1.2
Unique Attribute Manipulation	36	Mean	4.7	4.8	5.0	5.1	5.9	5.6
		Std Dev	1.6	1.7	1.4	1.5	1.8	1.3

Summary of Evaluative Scores

Low Use Subjects	#	Statistic	Many Choices	Con-venient	Satisfies Hunger	Eco-nomical	Low Calories	Sweet Tasting
Low Use Control	12	Mean	0.1	0.9	0.0	0.8	2.3	1.6
		Std Dev	1.7	1.7	1.7	1.2	0.8	1.0
Common Attribute Manipulation	32	Mean	1.8	1.7	1.3	1.4	2.1	1.3
		Std Dev	1.0	0.9	1.4	1.3	1.3	1.2
Mid Attribute Manipulation	25	Mean	1.6	1.2	1.3	1.7	2.1	1.7
		Std Dev	1.1	1.6	1.5	1.3	0.8	1.1
Unique Attribute Manipulation	16	Mean	1.3	1.0	0.8	0.8	1.4	1.4
		Std Dev	1.4	1.6	1.5	1.8	1.8	1.4

High Use Subjects	#	Statistic	Many Choices	Con-venient	Satisfies Hunger	Eco-nomical	Low Calories	Sweet Tasting
High Use Control	13	Mean	2.3	2.2	1.8	1.6	2.4	2.0
		Std Dev	0.6	1.0	1.0	1.8	0.9	1.0
Common Attribute Manipulation	20	Mean	2.1	2.1	2.0	1.7	2.6	1.9
		Std Dev	1.3	0.9	1.0	1.1	0.6	1.1
Mid Attribute Manipulation	27	Mean	1.5	1.9	1.7	1.8	2.1	2.1
		Std Dev	1.2	1.1	1.1	0.9	1.1	1.1
Unique Attribute Manipulation	36	Mean	1.6	1.6	1.8	1.8	2.2	1.9
		Std Dev	1.5	1.6	1.3	1.4	1.2	1.2

APPENDIX 7: ANOVA TABLES FOR NORMATIVE BELIEFS AND MOTIVATION TO COMPLY

Normative beliefs by Manipulations

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	8.068	2.017	0.947	0.438
Attribute specificity	2	2.691	1.346	0.632	0.533
Situation similarity	2	4.902	2.451	1.151	0.319
Two-way interaction	4	14.569	3.642	1.711	0.151
Explained	8	22.637	2.830	1.329	0.233
Error	147	312.972	2.129		
Total	155	335.609	2.165		

Motivation to comply by Manipulations

Source	D.F.	Sum of Squares	Mean Squares	F-ratio	Probability
Main Effects	4	5.756	1.439	0.571	0.684
Attribute specificity	2	5.394	2.697	1.070	0.346
Situation similarity	2	0.218	0.109	0.043	0.958
Two-way interaction	4	2.751	0.688	0.273	0.895
Explained	8	8.508	1.063	0.422	0.906
Error	147	370.435	2.520		
Total	155	378.942	2.445		

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