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**VARIETY SEEKING IN CONSUMPTION BEHAVIOR:
A REVIEW***

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1. INTRODUCTION.

For most products, the consumer in the Western society is faced with a diversity of alternatives from which to choose. To a large extent, each of these alternatives is capable of meeting the consumer's needs (e.g. Poiesz, 1988). Consequently, for the consumer many of the alternatives are substitutes at least on functional grounds. This situation has important implications for the supply side of the market. In markets characterized by saturation and intense competition among suppliers, it is important for an individual supplier to positively distinguish himself from competitors. This is achieved by outperforming competitors in the delivery of the product benefits that link up with the buyer's (or segment's) current needs. A prerequisite for achieving this goal, is that the supplier has a deep and thorough insight into how consumers perceive the relevant alternatives and into those factors that motivate consumers' choice behavior. The need for linking up with consumers' motivation, has stimulated interest in the demand side of the market. It is now generally recognized that meeting the needs of a defined segment of consumers is a crucial factor determining a firm's success. This philosophy has become known as the marketing concept.

In their choice behavior, consumers strive to maximize utility. When applied to food choice behavior, increasing the quantity of food consumption will hardly contribute to this goal, given the physical constraints on food intake. Utility may be increased, however, by consuming food products of better quality. As a result, the issue of product quality has recently received much attention. See Steenkamp (1989) for a review of the economic and marketing literature with respect to product quality. Bringing about more variation in the pattern of food consumption is another way in which the consumer may increase the utility he derives from consumption. This was already recognized as early as in the first half of the 19th century by the British economist Senior. His "Law of Variety" states that "It is obvious that our desires do not aim so much at quantity as diversity" (Jackson, 1984: 8). More recently, the consumers' desire for variety was clearly expressed by Faison (1977: 172) who stated: "Your favorite food may be steak but if it were served to you every night for a week, you would quickly tire of it and be screaming for change no matter how satisfying it was to your need state".

The desire for variation in consumption is the central issue of this paper. This issue has recently received increasing attention both in economics (e.g., Theil and Finke, 1983; Jackson, 1984; Shonkwiler, Lee and Taylor, 1987; Lee and Brown, undated; Lee, 1987) and in marketing (e.g., Faison, 1977; McAlister and

Pessemier, 1982; Pessemier and Handelsman, 1984; Wierenga, 1984; Givon, 1984; 1985; Handelsman, 1987). In this paper, the issue will be approached from a marketing perspective. Prime interest will be on the desire for variation in product choice. Consumer's desire for variation is incorporated in a model for variation in consumption behavior. The importance of the recognition of the various reasons that may underlie variation in behavior is stressed, both for theory development and for applied settings (e.g. the formulation of the most appropriate marketing strategy).

The structure of this paper is as follows. In section 2, prior work in marketing with respect to variety seeking in product choice is reviewed, with special emphasis on confusion in terminology. In section 3, a model is presented that integrates the various concepts that relate to variety seeking in product choice. The specificity and the psychological underpinnings of variety seeking are discussed. Section 4 discusses the relevance of the issue of variety seeking for marketing, while in section 5 conclusions are drawn.

2. VARIETY SEEKING IN PRODUCT CHOICE: PRIOR WORK.

Variety seeking -the phenomenon that individual consumers derive utility from the consumption of a diversity of products, independent of the functional value of these products- is now generally recognized as a determinant factor in consumer choice behavior with respect to many different product categories. Its manifestation is probably most clear within the food consumption context. Two examples may clarify the significance of the variety seeking tendency. Bass, Pessemier and Lehmann (1972) carried out a laboratory experiment on consumer choice behavior with respect to soft drinks. During twelve days, they collected data on actual choice, perception of the alternatives, preference and general attitudes for investigating the relation between specific attitudes towards brands, preference and actual choice behavior. Subjects selected their most-preferred brand on only 55 percent, and their highest-valued (based on the Fishbein model) brand on only 41% of the separate trials in which eight offerings were available. The authors conclude that "Choice behavior,...is not necessarily constant even though stated preference and attitudes are unchanging" (Bass, Pessemier and Lehmann, 1972: 541). The discrepancy is attributed to consumers' variety seeking tendency. Rolls and her colleagues have investigated the phenomenon of variety seeking within a single meal. In one of her experiments (Rolls, Rowe and Rolls, 1982), subjects were confronted with a pasta meal consisting of three courses. In one

experimental condition (the plain condition), subjects were in all three courses provided with pasta of their most preferred shape. In the other experimental condition, three different shapes of pasta (bow ties, hoops and spaghetti) were provided in the three successive courses. The types of pastas were identical in composition and texture and only varied in shape. All pastas were served with an identical tomato sauce. Subjects participated in both experimental conditions. The results of this experiment reveal that subjects have a significantly greater energy intake (14% extra) when offered a varied meal than when offered a plain meal of their favorite shape. Preference data (collected before and after the plain meal) reveal that, prior to the meal the favorite shape was rated more pleasant than the other shapes. After the meal, there is a greater decrease in preference for the shape eaten than for the shapes not eaten. Rolls has identified "sensory specific satiety" (i.e. the changing hedonic response to the sensory properties of a particular food as it is consumed; Rolls, 1986), as an important factor underlying the variety seeking tendency.

These are just two examples of how consumer's variety seeking tendency influences consumption behavior, but findings of this kind are common particularly in the food consumption context. In recent years, variety seeking and related phenomena have received more widespread attention in the marketing literature. Several authors have included a variety component into their models of consumer choice behavior. Bass, Pessemier and Lehmann (1972) were probably the first to suggest that variety seeking should be incorporated in models for consumer choice behavior. Sheth and Raju (1974) have explicitly recognized that the desire for novelty or curiosity may be an important determinant of consumer choice behavior. In their model of choice behavior in consumer psychology this is represented through the Curiosity Controlled Choice Mechanism. Jeuland (1978) has presented a partially deterministic model for variety seeking which states that the utility derived from a product declines with the experience with the product. Variation in behavior occurs when due to prolonged experience with the initially most preferred product, preference for this product falls below preference for any other product. In her deterministic model, McAlister (1982) has also attributed variety seeking behavior to satiation with the product's attributes. Her dynamic attribute satiation model states that preference for an item at a point in time is a function of that item's constituent attributes. She argues that the preference contribution of each attribute is a function of the consumption history (summarized by attribute inventories) and the point of satiation for that attribute. Farquhar and Rao (1976) also take a deterministic view on variety seeking. They

argue that variety seeking results from the consumer's attempt to find a balance in the product attributes consumed. For counterbalancing attributes, heterogeneity of scores of items positively contributes to balance. Variety seeking on counterbalancing attributes is seen as a means for achieving balance. Raju (1981) has explicitly distinguished between an intrinsic and an extrinsic component of consumer's preference. The extrinsic component reflects the product's goodness for some purpose. The intrinsic component reflects the product's stimulation value, due to such factors as novelty, variety, uncertainty etc. (see section 3.3). In an empirical study, Raju (1984) has operationalized these two components in the context of brand switching behavior. Two different types of brand switching are distinguished: instrumental brand switching due to dissatisfaction with the previous or existing brand and exploratory brand switching caused by some intrinsic desire for novelty, change or variety. Raju argues that most forms of actual voluntary brand switching can be considered a combination of these two types of brand switching in varying degrees. Givon (1984) has presented a stochastic brand choice model that models observed brand choice as a result of two forces: (a) the utility derived from the consumption of a specific brand and (b) the utility derived from switching by itself. Variety seeking is modelled through his parameter VS as a first order Markov process. In an extension of this model, Givon (1985) has investigated the phenomenon of variety seeking at the level of attributes, showing that variety seeking is attribute specific. Wierenga (1984) has incorporated a variety seeking component in his empirical test of the Lancaster characteristics model. He argues that: "...a consumer acquires utility from the consumption of many different items as such, in addition to the characteristics levels implied by the combinations of items" (Wierenga, 1984: 264). In comparing the relative importance of the two components of preference in actual choice behavior, Wierenga (1984: 290) concludes for vegetables that "...it is clear that variety seeking is much more important than the utility obtained from the characteristics". In line with Givon (1984), Lattin and McAlister (1985) also modelled variety seeking behavior by a first-order Markov model but their model incorporates the effect of brand similarity (in terms of product attributes) on variety seeking tendencies. Others (e.g. Jeuland, 1978; McAlister, 1982; Handelsman, 1987), however, have argued that this first-order representation may be unnecessarily restrictive. They argue that purchases prior to the most recent one also are of influence on the variety that is realized with the present purchase. Lattin (1987) has recently proposed a logit choice model for balanced choice behavior that accounts for the observation that the individual's desire for variety may differ across product characteristics, and is not uniformly sought across all

characteristics.

In sum, in several studies in the marketing context, the motivational effects of variety were incorporated into models for consumer choice. These models have in common that they all recognize that utility is derived from change or variety itself, in addition to the instrumental value of the chosen product(s). Direct comparison of these studies is hampered, however, because of the confusion that surrounds the concept of variety seeking. The next section will elaborate upon the existing confusion in terminology.

Variety seeking: confusion in terminology.

The more widespread attention for variety seeking and related phenomena has resulted in an accumulation of new insights, but unfortunately also in a number of apparent contradictions and inconsistencies (Kahn, Kalwani and Morrison, 1986). To a large extent, this is due to the fact that the term 'variety seeking' has been used to denote a number of different phenomena. The confusion around the term 'variety seeking' has made McAlister and Pessemier (1982) decide to avoid the term altogether in their influential paper. However, we believe that for a clear understanding of variety in all its aspects, the various interpretations of variety seeking should be clearly distinguished.

A distinction that is of great importance for a proper analysis of phenomena related to variety, is that between 'variety seeking tendency', 'variety seeking behavior' and 'variation in behavior'. The difference between these concept can best be exemplified with the very useful distinction that McAlister and Pessemier (1982) have made between direct and derived varied behavior. Generally speaking, variation in behavior that is the result of external or internal forces that have nothing to do with a preference for change in and of itself (McAlister and Pessemier, 1982: 313) is referred to as derived varied behavior. As examples of derived varied behavior, McAlister and Pessemier refer to variation in behavior that results from multiple needs and changes in the choice problem. Multiple needs may results from multiple users (different members of a household prefer different objects), multiple situations (in which the behavior is dictated by the situation), or from multiple uses (in which an object is used in multiple ways). Changes in the choice problem may result from changes in the feasible set, changes in taste, or changes in constraints. In these instances, variation in behavior is not a goal in and of itself, but instead serves some further goal. Variation may also be sought out for as a means in and of itself. In those

instances it is referred to as 'direct'. Direct varied behavior is brought about by the desire for a change of pace. This desire for variety may manifest itself in novelty seeking, alternation among familiar alternatives and will result in a bank of information that may be helpful to improve problem-solving skills. Dependent on the underlying reasons, direct varied behavior may also reflect the desire for group affiliation or individual identity. Social approval as the seeking of social rewards, without any strongly experienced prior anxiety reflects a direct cause of varied behavior (cf. Rossiter and Percy, 1987). However, if the desire for group affiliation or individual identity arises from a prior state of social anxiety, it reflects derived cause of varied behavior (cf Hoyer and Ridgway, 1984).

Variation in behavior (also denoted to as variation in consumption or varied behavior) captures both direct and derived varied behavior. It refers to observable behavior and is a characteristic of the consumption history of a consumer or a household without reference being made to the underlying motive(s). In the marketing context, Pessemier and Handelsman (1984) and Handelsman (1987) have developed sophisticated measures for quantifying variation in consumption behavior based on consumption history and perceptual data. Although these authors acknowledge that many different motives may underlie variation in consumption, their main focus is on the development of valid measures for variation in consumption behavior and on how variation in behavior is influenced by demographic, attitudinal, and shopping and product-use variables. Similar studies, that investigate how variation in behavior changes with increases in income and with general household characteristics may also be found in economic literature (e.g. Theil and Finke, 1983; Jackson, 1984; Lee, 1987). Van Trijp and Steenkamp (1990) have discussed the validity of the various measures for variation in behavior that have been used in economics and marketing. They conclude that these measures do not all pertain to the same concept, but instead to two distinct though related aspects of variation in consumption.

Variety seeking behavior has been defined as "the phenomenon of an individual consumer switching brands induced by the utility she derives from the change itself, irrespective of the brands she switches to or from" (Givon, 1984: 2/3). In the context of brand switching, Raju (1984) has used the term exploratory brand switching to denote to variation in behavior that is caused by the intrinsic desire for novelty, change or variety. Variety seeking behavior thus also concerns observable behavior, but in a more restrictive sense than does varied behavior. Variety seeking behavior reflects both the observable act and the underlying

motivation. It reflects varied behavior that is motivated by the consumer's desire for variety. Variety seeking behavior will only coincide with variation in behavior, when the desire for variety is the only underlying motivation. If other motivations are involved too, variety seeking behavior captures only a subset of the observed variation in consumption behavior. The distinction between variety seeking behavior and variation in behavior has important implications for empirical research on issues related to variety. This is particularly evident in studies that model variety seeking as a parameter in stochastic buying behavior models. Some of these studies (e.g. Givon, 1984; Kahn, Kalwani and Morrison, 1982) have estimated their variety seeking parameters from panel data. However, as panel data does not allow for separation of direct and derived varied behavior, the variety seeking parameters obtained tend to confound the underlying motivations. For that reason, these parameters will not be valid estimates of consumer's variety seeking tendency, as they capture factors that have nothing to do with the desire for change. In other studies this problem is circumvented by using experimental setups instead of panel data. The use of an experimental setup offers the possibility to rule out derived varied behavior, by controlling for such factors as multiple needs (products are chosen for personal use and usage situation is prespecified) and changes in the choice problem (e.g. out of stock conditions, changes in marketing mix and changes in constraints). The variety seeking parameters obtained from these studies (e.g. Givon, 1985; Lattin and McAlister, 1985; McAlister, 1982; Lattin, 1987) are expected to be a better representation of consumers' variety seeking tendency, as observed variation in consumption behavior is more closely resembling variety seeking behavior. These studies have in common, however, that consumer's variety seeking tendency is derived from observed variation in behavior, without the consumer characteristic variety seeking tendency being investigated in detail.

A different line of research concentrates on the consumer characteristic variety seeking tendency. Variety seeking tendency is an organismic variable that influences consumption in conjunction with other variables (Meulenberg, 1989). These studies explicitly acknowledge that consumers vary in their tendency to seek out for variety and this tendency is studied in relation to other elements of human personality. The study of consumer's variety seeking tendency finds its basis in psychological literature on exploratory behavior (most notably the work of Berlyne, 1960; 1963 and Fiske and Maddi, 1961). Unfortunately, the term 'variety seeking' has also been used to denote to this consumer characteristic that underlies variety seeking behavior. Hoyer and Ridgway (1984: 115), for example,

define variety seeking as "the desire for a new and novel stimulus". Others have used the terms variety drive (e.g. Faison, 1977; Rogers, 1979), need for variation (Fiske and Maddi, 1961) or inherent novelty seeking (Hirschman, 1980). Satisfaction of the desire for variety will result in variety seeking behavior and consequently in variation in behavior. It should be clearly recognized, however, that variation in behavior may be due to many other factors as well. Consumer's variety seeking tendency cannot be directly derived from variation in behavior, but it may be derived from the consumer's variety seeking behavior.

Assael (1987) has used the term variety seeking in a slightly different sense to denote to a consumer decision-making process. Assael argues that variety seeking is the dominant decision process under low involvement conditions with significant perceived differences between brands. A similar line of reasoning is followed by Sheth and Raju (1974). In addition to their Curiosity Controlled Choice Mechanism (CCCM), these authors have identified three other choice mechanisms: Situation Controlled Choice Mechanism (SCCM), Belief Controlled Choice Mechanism (BCCM), and Habit Controlled Choice Mechanism (HCCM). Based on these four choice mechanisms, Sheth and Raju (1974) have proposed the following model of choice behavior in consumer psychology:

$$\text{Choice Behavior} = B_1(\text{SCCM}) + B_2(\text{BCCM}) + B_3(\text{HCCM}) + B_4(\text{CCCM}) + \text{error}$$

A cyclical sequential linkage between the four types of decision processes is hypothesized. Due to satiation, consumers are hypothesized to gradually shift from HCCM to CCCM. From a variety seeking point of view we would argue that consumers high in variety seeking tendency, will be more likely to give greater weight to the CCCM in their choice behavior than do consumers low in variety seeking tendency, resulting in a more rapid change from HCCM to CCCM. Further, we hypothesize that the relative importance of CCCM in choice behavior is dependent on the degree of involvement in the purchase decision.

We believe that the study of variety seeking and related phenomena, would greatly benefit from a more precise definition of the various phenomena of interest. We suggest to reserve the term variety seeking for the consumer decision making process that is characterized by variety seeking behavior. Variety seeking behavior will be reserved for those aspects of varied consumption that are motivated by no other factor than the consumer's desire for a change of pace. Variation in behavior will be used to denote to the total of varied behavior, i.e.

independent of the underlying motivation. Consumer's variety seeking tendency may then be defined as: "a motivational factor or internal drive that influences consumer choice behavior by aiming at realization of variation in stimulation through varied product choice, irrespective of the instrumental or functional value of the alternatives". Note that this definition is in line with Hirschman's (1980) definition of inherent novelty seeking. The definition of variety seeking tendency captures only one aspect of variation in stimulation, namely through varied product choice, as this is our prime interest from a marketing point of view. It should be noted, however, that many different forms of behavior may contribute to the desired variation in stimulation. For example, an individual may satisfy his need for variation in stimulation through participation in social activities (e.g. Hirschman and Wallendorf, 1979) or through creative thinking. More generally speaking, Fiske and Maddi (1961: 19) distinguished between three sources of stimulation: exteroceptive stimulation (i.e. stimulation derived from stimuli that exist external to the individual), interoceptive stimulation (e.g. stimulation from muscles and organs) and cerebral stimulation (such as ideas, images and thoughts). Although in marketing the latter two sources of stimulation are not our prime interest, it is important to note that these sources of stimulation may help to explain why under certain circumstances variation in product choice is not actively sought out for (see section 3).

3. VARIETY SEEKING IN CONSUMER CHOICE BEHAVIOR.

The distinction between variety seeking tendency, variety seeking behavior, and variation in behavior forms the basis for a model linking the various aspects of variety. This model (figure 1) illustrates how the consumer characteristic variety seeking tendency is related to variety seeking behavior and variation in behavior, which are characteristics of the purchase history.

In line with McAlister and Pessemier (1982) we have distinguished between two aspects of variation in behavior: derived varied behavior and variety seeking behavior, dependent upon the underlying motivation. Variety seeking behavior concerns those aspects of variation in behavior that are motivated by the consumer's variety seeking tendency. Three antecedents of consumer's variety seeking tendency are distinguished. Curiosity reflects the desire for new and novel stimuli. In line with Hirschman and Wallendorf (1980), inherent novelty seeking (Hirschman, 1980) is identified as an aspect of consumer's variety seeking tendency. Curiosity also reflects the desire for acquisition of information (McAlister and Pessemier, 1982). Boredom/satiation reflects the fact that

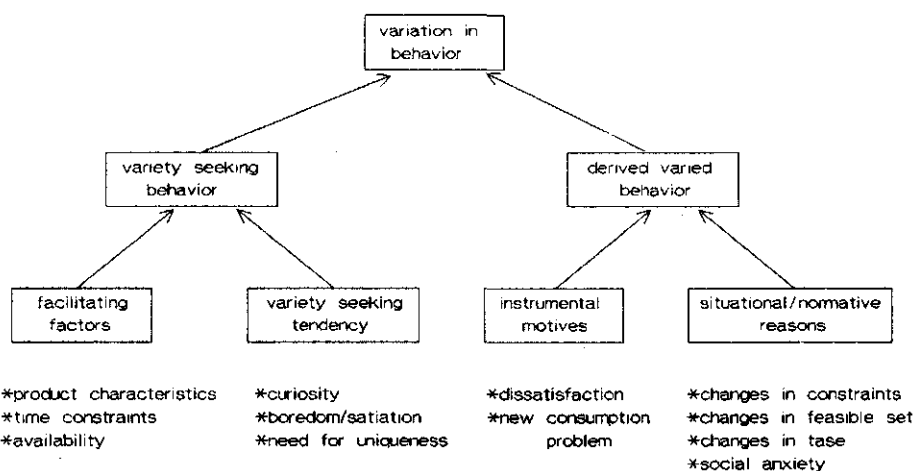


Figure 1 A model linking variety-related concepts.

consumers get satiated with some of the attributes they are consuming, resulting in decreasing marginal value for incremental units of those attributes. The amount of an attribute that is most preferred, is both consumer-specific and attribute specific. Consumers that get satiated more rapidly, will be higher in variety seeking tendency. A third antecedent of the variety seeking tendency reflects interpersonal motives, as far as they do not arise from a prior state of social anxiety (cf. Rossiter and Percy, 1987). In line with Hoyer and Ridgway (1984), the need for uniqueness is considered an antecedent of variety seeking tendency, while influence of others (through social norms) is not. Whether or not consumer's variety seeking tendency will lead to variety seeking behavior, depends on a number of facilitating factors. These include characteristics of the product under consideration (cf Hoyer and Ridgway, 1984), time constraints and availability of desired products at the moment of consumption.

In addition to variety seeking behavior, derived varied behavior constitutes another aspect of variation in behavior. Derived varied behavior may be caused by instrumental motives (the product's goodness for some purpose) or by situational factors (behavior is guided by environmental factors). Note that these three antecedents of variation in behavior (variety seeking tendency, instrumental motives and situational factors) closely resemble Sheth and Raju's (1974) Curiosity Controlled Choice Mechanism, Habit or Belief Controlled Choice Mechanism and Situation Controlled Choice Mechanism, respectively. Instrumental motives for variation in behavior may be due to dissatisfaction with the current brand or

product, or because the consumer is confronted with a new consumption problem to be solved. Situational factors may also result in variation in behavior. Examples are changes in constraints (e.g. wealth, time for shopping), changes in the feasible set (e.g. out of stock, changes in the marketing mix), or changes in taste. Further, normative factors are also included in this category, including such factors as influence from relevant others on product choice.

Specificity of the variety seeking tendency and variety seeking behavior.

Several authors have discussed the issue of whether or not consumer's variety seeking tendency is a general drive which is expressed to the same extent in different facets of behavior. Hoyer and Ridgway (1984) argue that consumers' variety seeking tendency may be conceived of as a general drive. As such it is a characteristic of the individual. However, whether or not this drive will be expressed for a particular product category (variety seeking behavior), depends on certain characteristics of the product. Some product categories are better suited for expression of the variety drive than are others. Variety seeking may thus be referred to as a general drive which is expressed in only a subset of product-specific situations (i.e. and individual x product interaction).

Other authors have also commented on this issue. McAlister and Pessemier (1982), citing contradictory evidence, conjecture that an individual will display a preference for similar levels of stimulation in product classes that are important to him. Hirschman and Wallendorf (1980) argue that within the social context, individuals that exhibit a certain level of variety seeking behavior in one area of their lives (e.g. group membership) will seek a similar level of variety in other areas of living. On the other hand, Pessemier and Handelsman (1984) argue, in line with Robertson's (1971) findings for innovativeness, that individuals exhibit varying degrees of varied behavior across different product classes. Handelsman (1987) provides empirical evidence on toothpaste, cake mix and liquid household cleaner to support his contention that individuals do not have a consistent level of varied behavior across products. On the basis of these results, it is hypothesized that not all product categories are equally well suited for expression of the variety drive and consequently that consumers express their tendency towards variety to a different extent for different product categories. Additional empirical research on this issue is needed, however.

Hoyer and Ridgway (1984) have listed several objective and subjective product characteristics that may play an important role in determining whether or not the

variety drive will be expressed. Among these product characteristics are the risk that is perceived with the product, the perceived difference between brands, the number of available alternatives, the interpurchase time and the degree of involvement. They hypothesize that the variety drive is most likely to be expressed when there are a large number of brand alternatives, when interpurchase time is relatively short, when involvement with the product, perceived difference between brands, and brand loyalty are relatively low and the dependence on neural sensation is relatively high. Food consumption is one of the product categories that is well suited for expression of the variety drive (Hoyer and Ridgway, 1984), as is also evidenced by empirical results of Wierenga (1984) and Givon (1985).

Some authors have discussed the variety seeking tendency at an even more specific level, arguing that variety seeking behavior is attribute-specific (e.g. Givon, 1985; Lattin, 1987). That is, some attributes are more suitable for the satisfaction of the need for variety than are others, and individuals may vary in the attribute or attributes they choose for expressing their variety seeking tendency. This observation is partly in line with that of Farquhar and Rao (1976). In discussing consumers' choice for subsets of items, these authors distinguish between 'equibalancing' and 'counterbalancing' attributes. Equibalancing attributes are those attributes for which homogeneity or uniformity in scores across products contributes positively to overall preference for the subset. For counterbalancing attributes utility is maximized when heterogeneity exists in scores across items in the subset. Consumers may vary in whether they classify a particular attribute as equibalancing or counterbalancing. Those consumers that strive for variety will do so on counterbalancing attributes. In her attribute satiation model, McAlister (1982) also points to differences among attributes in the extent to which they are suited for satisfaction of the tendency towards variety. This is represented by the attribute specificity of both the attribute inventory factor (the inverse of the speed with which the inventory for an attribute dwindles) and the importance weights (reflecting the degree of disutility associated with being a given number of units from one's ideal level for an attribute).

In sum, it is hypothesized that consumers differ in their tendency toward seeking out for variety. This variety seeking tendency is a consumer characteristic that may be quantified and be used for segmentation purposes. The variety seeking tendency is not expressed across all products and situations to the same extent. This is referred to in the model as facilitating factors. More research is needed on those factors that determine whether or not the variety seeking tendency will

result in variety seeking behavior. So far, the motivational properties of variety seeking have not been discussed. This issue will be elaborated upon in the next section.

The psychological underpinnings of variety seeking tendency and variety seeking behavior.

Psychology has been concerned with the notion of variety seeking behavior since the fifties, be it on the more general level of "exploratory behavior". Exploratory behavior refers to such common observations, as animals investigating objects they are not familiar with or children spending hours playing. For these behaviors, no specific biological function can be recognized. Instead, it has been argued that these behaviors serve the needs of the central nervous system, most notably the brain (Berlyne, 1971). In a broad sense, Berlyne (1963: 288) defines exploratory behavior as "behavior with the sole function of changing the stimulus field". Maddi recognizes that "any behavior that indicates interest in, or particular attention to one portion, as opposed to the rest, of the surround can be considered exploratory". But he proposes to restrict the term exploration to those aspects of behavior that occur in the absence of any strong, specific needs. That is, interest in the environment that appears to be an end in itself (Maddi, 1961: 254). This definition of exploratory behavior coincides with Berlyne's concept of intrinsic exploration: "...the kind of exploration that introduces stimuli that can be said to be rewarding in themselves, regardless of any instrumental activity that they may evoke" (Berlyne, 1963: 289). His broader definition of exploratory behavior also captures extrinsic exploration, that serves to introduce "cues to guide a subsequent response with its own source of reinforcement" (Berlyne, 1963: 289). Note that Berlyne's distinction between intrinsic and extrinsic exploration bears great resemblance with the distinction between variety seeking behavior and derived varied behavior. In the remainder of this paper, the term exploratory behavior will be used as proposed by Maddi, but note that this definition coincides with Berlyne's concept of intrinsic exploration.

Variety seeking behavior may be conceived of as a specific manifestation of exploratory behavior, aimed at the regulation of exteroceptive stimulation. Consequently, psychological explanations for variety seeking behavior will be mainly derived from those provided in the area of exploratory behavior. Several theories have been put forward for the explanation of exploratory behavior, ranging from instinct-type explanations to complexity theories. As extensive (historical) reviews of these theories are available elsewhere (e.g. Zuckerman,

1979, chapter 2; Deci, 1975, chapter 2), these explanations will not be discussed in this paper. Instead, we will concentrate on what McGuire (1966) has termed "complexity theories". These theories diverge from the more familiar consistency theories. Whereas the consistency theories hypothesize that the organism has a penchant for stability and familiarity as a means of drive reduction, the complexity theories also incorporate those aspects of behavior that are positively valued because of the increase in drive they produce. The complexity theories put forward in the literature, bear great similarities, in particular because they are centered around the concept of Optimum Stimulation Level. In this paper, special emphasis will be given to the two major complexity theories put forward by Berlyne (1960, 1963) and by Fiske and Maddi (1961). Although these two theories differ on several aspects, they bear great similarities in their thinking (see Raju, 1977a for a comparison of the two approaches).

Complexity theories.

Central in the complexity theories, is the concept of Optimum Stimulation Level (OSL) that has independently been put forward by Hebb (1955) and Leuba (1955). The concept of OSL implies that individuals have an idiosyncratic intermediate level of stimulation that is most preferred by them. The individual's behavior is assumed to be directed at maintaining the actual level of overall stimulation at this most preferred level. Whenever the actual level of stimulation diverges from the OSL, the individual is motivated to bring the actual level in closer correspondence with the optimal level, either by increasing or by decreasing actual stimulation. Exploratory behavior, and also variety seeking behavior, is seen as a means of achieving this goal. The stimulus' contribution to the maintenance of the actual stimulation level at the optimum, is recognized as the "reward" that reinforces positively motivated behaviors, such as variety seeking behavior (Berlyne, 1971).

The complexity theories are concerned with providing explanation for the exploratory behavior's contribution to the maintenance of OSL. Consequently, these theories may also contribute to our understanding of why consumers derive utility from the consumption of many different items per se (variety seeking behavior). Although Berlyne (1960; 1963) and Fiske and Maddi (1961) agree on the basic notion that some intermediate level of stimulation is preferred, they differ in their exact formulations. For the present discussion, however, these differences are not of crucial importance. For sake of clarity, only Berlyne's terminology will be used. This implies that the term 'activation', as used by Fiske and Maddi (1961) to

denote "a state of excitation of a brain structure, probably the reticular formation" (p. 21) is equated to "arousal", which is used by Berlyne (1963) as a measure of "how vigilant, attentive, or wide-awake an organism is" (p. 307)¹. Similarly, the term "impact", which is used by Fiske and Maddi (1961: 18) to denote the property of the stimulus which affects arousal level is equated to Berlyne's concept of "arousal potential". Arousal potential is used by Berlyne (1963: 317) to denote " ..all those variables,..., with which arousal, in most conditions, increases."

Berlyne's theory is primarily concerned with exteroceptive stimulation. His prime interest is in the stimulus selection process and the properties of stimuli that guide this selection process. Berlyne observes that the receptors of organisms in their natural environments are inundated with an endless variety of stimuli coming from all direction. His work is concerned with the question to which stimulus the organism will respond (Berlyne, 1960: 7). Berlyne has identified a number of stimulus characteristics that are most influential in determining the strength and direction of exploratory behavior. Collectively these properties, that have arousal potential, are referred to as "collative variables". Several collative variables are distinguished, such as novelty, surprisingness, change, ambiguity, incongruity, blurredness, and power to induce uncertainty. These variables are collative: "...since, in order to evaluate them, it is necessary to examine the similarities and differences, compatibilities and incompatibilities between elements -between a present stimulus and stimuli that have been experienced previously (novelty and change), between one element of a pattern and other elements that accompany it (complexity), between simultaneously aroused responses (conflict), between stimuli and expectations (surprisingness), or between simultaneously aroused expectations (uncertainty)" (Berlyne, 1960: 44). Although for convenience the collative variables are often referred to as attributes of external stimulus patterns, they are actually relations between stimulus properties and attributes of the subject. They depend on interactions between what is outside and what is inside (Berlyne, 1968). Whether or not a particular stimulus provides a surprise depends on the stimulus, but also on the subject's expectation. Similarly, whether or not a stimulus brings

¹ Although slight differences do exist between arousal and activation, for our purposes the equation of the two terms seems a reasonable thing to do. Fiske and Maddi (1961: 21) comment on the relation between the two concepts: "Activation is associated with arousal. We are restricting the term activation to mean the state of a catalytic and energizing mechanism in the central nervous system and using the term arousal to refer to manifestations of activation in various parts of the organism". Assuming that arousal is a valid measure, level of arousal and level of activation coincide.

about change, depends on the stimulus and on the subject's prior experience. In order to evaluate the collative variables, both the stimulus pattern and attributes of the subject should be taken into account. All collative variables have similar motivational effects and are interchangeable in many respects. According to Berlyne (e.g. 1968) this is due to the fact that all collative variables involve conflict, which is defined as "a state of affairs containing stimulus conditions that are associated with incompatible responses, i.e., responses whose simultaneous performance is excluded" (Berlyne, 1968: 260). In view of the bombardment of stimuli that reach our senses every moment of waking life, it is clear that conflict is always present, as incompatible responses will always be present. Conflict may thus be said to be a matter of degree. The degree of conflict fluctuates continuously, reaching uncomfortable levels from time to time (Berlyne, 1968).

Variation as a variable with arousal potential.

Both theories agree in that some optimal level of stimulation is most preferred by an organism². Variation is one of the properties that has arousal potential, and for that reason contributes to the regulation of actual stimulation level to the OSL. Fiske and Maddi (1961) do explicitly recognize variation as one of the stimulus properties with arousal potential. In addition, they recognize intensity and meaningfulness as two other properties that effect the individual's arousal level. Variation from three different sources is relevant in this respect: from interoceptive sources (for example, stimuli from muscles or organs), from cerebral sources (such as ideas, images and thoughts), and from exteroceptive sources (that is stimulation that is derived from stimuli that exist outside the individual). From a marketing point of view, we are particularly interested in the latter source of variation, as variation in product choice is a form of exteroceptive stimulation. The other sources of stimulation, however, may be of help in explaining why in certain circumstances, variation is not sought for. Consider, for example, the situation of a very hungry organism. This organism will receive intensive and meaningful stimulation of an interoceptive kind (e.g. contractions of the stomach). In such situations, variation will not be sought out as the organism is not in need of stimulation modifying behavior. In such instances, the positive

²The relation between arousal potential and attractiveness is the net result of two relationships, namely that between arousal potential and arousal and that between arousal and attractiveness. Although the two theories agree on the net result, they differ significantly on the processes underlying the net result. A discussion of this issue is beyond the scope of this paper. The interested reader is referred to Berlyne (1963).

motivation of sensory enjoyment is subordinate relative to the motivation of allaying one's hunger.

In Berlyne's theory, variety is not explicitly recognized as a collative variable in itself, but instead is captured as a special case of novelty. With respect to novelty, Berlyne distinguishes between different senses in which something can be new. Something can be new with respect to an organism's total experience in that it has never been encountered before (i.e. total novelty). On the other hand, something can also be new with respect merely to its recent experience, for example because it has not been encountered within the last few minutes (short-term novelty). It is obvious that novelty is a matter of degree of which short-term novelty and total novelty are the two extremes. Not only is the degree of novelty a function of the time since the same stimulus has most recently been encountered, but also of the similarity between the elements that are encountered. In this context, Berlyne (1960: 19) distinguishes between absolute novelty and relative novelty. "An absolute novel stimulus would be one with some quality that had never been perceived before, while a relatively novel stimulus of stimulus pattern would possess familiar elements or qualities in a combination or arrangement that had not been met with in the past". Variety would thus be represented in Berlyne's theory as short-time or long-time (but not total) novelty and would include both absolute and relative novelty.

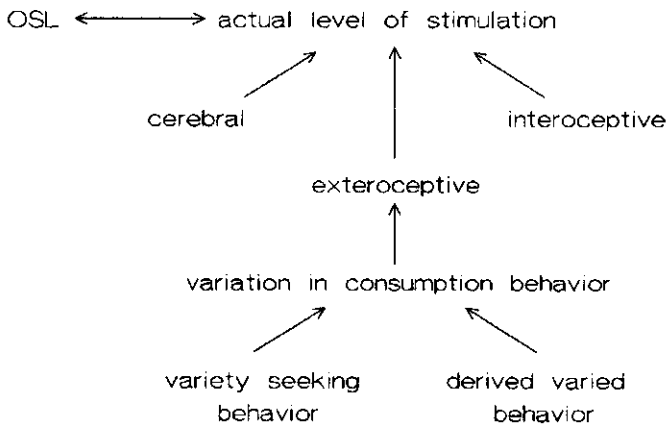


Figure 2 Relationship between variety seeking behavior and Optimal Stimulation Level (OSL).

Figure 2 illustrates how variety seeking in consumption behavior is related to Optimum Stimulation Level. Variety seeking is a means of regulating the actual level of stimulation in (closer) correspondence with the most preferred level (OSL). For this purpose, the exteroceptive component of stimulation is employed.

Variety seeking behavior as stimulation regulating behavior.

The two frameworks can now be used to predict what behavior will be adopted by individuals whose actual level of stimulation is not in correspondence with their optimal level of stimulation. With respect to the situation where the actual level of stimulation is sub-optimal, both theories agree. The individual will adopt in behavior that increases the actual stimulation level. Berlyne (1960: 80) has referred to this process as 'diversive exploration', indicating that a wide range of sources of stimulation may be used for this purpose, provide only that their collative properties are just right. One way of doing so, particularly relevant for this context, is to bring about more variation in behavior. When the actual level of stimulation is above the optimum, the two frameworks yield different predictions. Fiske and Maddi (1961) predict that the individual would withdraw in such situations and choose a more familiar stimulus. Berlyne's theory predicts that in the case of excessive, two mechanisms for handling the arousal potential are open. When the actual level of stimulation is far above the optimal level, Berlyne agrees with Maddi that withdrawal will occur. However, when the influx of arousal potential is only slightly above the optimal level Berlyne hypothesizes that in the long run the most effective remedy consists of specific exploration (i.e. closer inspection of the stimuli that cause the excessive stimulation) will be the most effective remedy. That is, both approach and avoidance behavior may occur in case of excessive stimulation³.

Variety seeking behavior is a means for obtaining extra stimulation of an exteroceptive kind. Variety seeking behavior will be adopted in those situations where actual stimulation is below the optimal level. It is important to note that both theories discussed here agree on this point. From a marketing point of view, we are particularly interested in how consumer choice behavior is influenced by variety seeking behavior and on how information on consumers' variety seeking tendency may be subservient to the formulation of marketing strategies. The next

³In the context of this paper, this point of discussion between Maddi and Berlyne is only briefly discussed. The interested reader is referred to Maddi (1968) and Berlyne (1963) for a more extensive discussion.

section will discuss the relevance of the issue of variety seeking for marketing.

4. RELEVANCE OF THE ISSUE OF VARIETY SEEKING FOR MARKETING.

The relevance of the issue of variety seeking behavior for marketing has already long been recognized. Howard and Sheth (1969) have adapted Berlyne's findings for buyer behavior. Their stimulus ambiguity-arousal hypothesis is based on Berlyne's work, whereby "stimulus ambiguity" is a concept that captures all of the collative properties of the stimulus (Howard and Sheth, 1969: 158). It is contended (cf Sheth and Raju, 1974) that consumers, after a process of gradual simplification of the choice behavior, are very likely to find themselves in too simple a situation (i.e. boredom caused by a sub-optimal level of stimulation derived from purchase behavior). This situation motivates the consumer to raise stimulation by means of diversive exploration, such as shopping around trying alternative brands that are more novel or more interesting. The latter phase is referred to as 'psychology of complication'. Together, the psychology of simplification and the psychology of complication, result in the situation where "... a buyer may repeatedly pass through a cycle of loyalty and disloyalty. He tries a brand, likes it and becomes loyal. After a period of consuming it either he becomes bored or his aspiration level rises and he looks around for another brand" (Howard and Sheth, 1969: 166). With respect to the evoked set, this implies that it should be considered a dynamic entity whose composition varies through time (Wierenga, 1974; Howard, 1989).

Hansen (1972) distinguishes two kinds of activities in connection with choices: exploration and deliberation. Of these two, deliberation refers to problem solving activities such as thinking and memorizing. Exploration, on the other hand, refers to the environment and the individual's orientation to it. Both activities may contribute to the maintainance of the individual's optimal level of stimulation. Exploration, and thus also variety seeking, is recognized as having an important function in regulation of OSL through manipulation of situational arousal potential.

More recently, Assael (1987) has identified variety seeking as an important type of consumer behavior. This type of consumer behavior is most likely to be observed in low involvement decision making for a product class that involves differences between the brands. Because of the low involvement, there is little risk in switching to another brand (the extrinsic component of preference), yet

because of the differences between the brands there may be reasons for such a switch (the intrinsic component of preference).

Acknowledgment of the fact that consumer choice behavior is (partly) determined by the stimulus' contribution to the OSL, has important implications for marketing. In this respect, it is important to distinguish between the intensity of consumer's variety seeking tendency and the direction, or pattern of variety seeking behavior. The intensity of the variety seeking tendency refers to the personality characteristic that indicates in what degree a certain consumer has a tendency to search for variety. This personality characteristic bears strong similarity with OSL, and measures for OSL have actually been applied in marketing studies as operationalization of the consumer tendency toward variety. The pattern of variety seeking behavior forms the link between the individual and the products. From the observed pattern of variety seeking behavior, insight may be obtained into the direction of this process. That is, which products or which combinations of products are particularly suited for satisfaction of the tendency toward variety? Both aspects of variety seeking have implications for marketing decisions.

Intensity of consumer variety seeking tendency.

Insight into the intensity of consumer variety seeking tendency may provide an important criterion for meaningful market segmentation. Consumers that are high in their variety seeking tendency (HVS-consumers) require a different approach than low variety seeking consumers (LVS-consumers). For that reason, a segmentation based on intensity of variety seeking may provide a meaningful starting-point for marketing strategy formulation. Until recently, a measuring instrument for consumer's variety seeking tendency was not available. In the absence of such a consumer specific measuring instrument, several consumer researchers have used general psychological scales for quantification of the individual's Optimum Level of Stimulation, as a substitute. In psychology, several of such instruments are available such as the Sensation Seeking Scale (Zuckerman et al., 1964), Change Seeker Index (Garlington and Shimota, 1964), Stimulus Variation Seeking Scale (Penny and Reinehr, 1966), and Arousal Seeking Scale (Mehrabian and Russell, 1974). However, OSL is a very broad concept in that it relates to a great many different sources of stimulation. It is now acknowledged in marketing that general concepts derived from psychology are not very useful in predicting specific behaviors in the consumer behavior context. Instead, current theory suggests that consumer characteristics should be operationalized within a

limited domain when the purpose is to use them as predictors of specific behavior (Schuman and Johnson, 1976; Azjen and Fishbein, 1980; Verhallen and Pieters, 1984). This implies that there is a need for a consumer specific instrument for consumer's variety seeking tendency. Raju (1977b, 1980) has made a first step in the construction of a scale for variety seeking specifically designed for the consumer context. He suggests that the behavior items he has proposed may be useful in the construction of such a consumer specific instrument (Raju, 1977b: 172). Van Trijp and Steenkamp's (1989) VARSEEK-scale taps consumer's variety seeking tendency with respect to food products. The validity of this domain-specific scale has been investigated extensive, and it has been shown that this scale has a predictive advantage over the Sensation Seeking Scale, when the purpose is to predict variation in food consumption.

Such a scale for measuring consumer's variety seeking tendency provides a means of monitoring the variety seeking tendency of a relevant market segment. This information provides guidance in the promotional strategy to be chosen. Not only will HVS-consumers get bored more rapidly with products than do LVS-consumers, but also with advertisements. In markets characterized by a relatively high proportion of HVS-consumers, promotional strategy should account for this. This implies that in such markets a rapid schedule of novel campaigns should be adopted. This strategy may prevent a rapid "wear-out" of the campaign by providing HVS-consumers with the required level of novel information and thus keeping their interest alive. Further, for HVS-consumers, the products progress more rapidly through the life cycle. For that reason a more rapid implementation of the advertising campaigns is required for this group (Hirschman and Wallendorf, 1980). With respect to repetition of a particular advertising message, insight into the intensity of the variety seeking tendency may contribute to the decision how often to repeat the message, so as to optimize attention without provoking boredom. A means to achieve this goal is to have several sales messages in a campaign that are rotated (Faison, 1977). In content, the advertising message may be directed towards putting emphasis on the variety seeking motive.

Within a HVS-segment, it is relatively easy to induce consumers to try a new brand, but it will be difficult to induce loyalty to any single brand. This would imply that continued short-term promotional activity (e.g. coupons, deals) should be directed towards the variety seekers (Givon, 1984). With respect to product policy, manufactures should adopt a cycle on which new product offerings are

replaced as a means of satisfying the consumer's need for variety (Pessemier and Handelsman, 1984). A somewhat different strategy would be to extend the product line in order to offer a portfolio of products within which consumer can satisfy their need for variety (e.g. Wind, 1977). This strategy that adjusts to multibrand loyalty would require knowledge on the pattern of variety seeking, however.

Pattern of consumer's variety seeking behavior.

Consumers' variety seeking tendency is not expressed in all product categories to the same extent. Some products are better suited for satisfaction of the variety seeking tendency. Within a particular product category, some consumers may find some product attributes better suited for satisfaction of their variety seeking tendency (Farquhar and Rao, 1976). As is evident from figure 1, the relation between variety seeking tendency and variety seeking behavior is also influence by facilitating factors. Givon (1985) has adopted the idiosyncratic pattern of variety seeking behavior as a criterion for market partitioning. He provides a method for identifying consumer segments on the basis of similarity in market partitioning. Applied to soft drinks, for example, it is obvious that the consumer segment that searches for variety in caloric content requires a different strategy from a segment that searches for variety in flavor.

HVS-consumers differ from LVS-consumers in that no single product from a product category is capable of fulfilling their needs (Lattin and McAlister, 1985). This so-called 'composite need' of HVS-consumers can best be satisfied by means of consumption of a portfolio of products. From a suppliers point of view, knowledge of the pattern of variety seeking behavior is of paramount importance in formulating the most appropriate product line within any product category. By identifying those product attributes on which variety is mainly sought out for, a supplier can construct a product line that captures for the need for variety (e.g. Handelsman, 1983; Pessemier and Handelsman, 1984; Handelsman and Munson, 1985). Consumer choice within this product line may further be enhanced by offering cross-promotional offers (e.g. in which a special coupon for one brand appears on or in the package of another) that fit in with the consumers pattern of variety seeking (Lattin, 1987).

5. DISCUSSION.

In this paper variety seeking in consumer behavior is discussed. Several concepts

that have been denoted to as 'variety seeking' are identified. A model is presented that captures all of these concepts, and puts them in one unitary framework that can be used for future research. Variety seeking behavior arises from the consumer's desire for a change of pace and is independent of the instrumental value of the product(s) chosen. This aspect of variation in behavior should be clearly distinguished from other motives that may result in variation in behavior. Managerial implications of this distinction are discussed.

Consumers vary in their tendency toward seeking out for variety. This consumer characteristic is related to the individual's Optimum Level of Stimulation. Variation in product choice is identified as an exteroceptive source of stimulation, and is a means for bringing the actual level of stimulation into correspondence with the most preferred level of stimulation. When the purpose is to use consumer's variety seeking tendency as a predictor for specific aspects of behavior (such as variation in product choice), it is important to measure this consumer characteristic at the same level of specificity. General psychological scales do not meet this criterion. For that reason, there is a need for a consumer specific instrument that taps consumer's variety seeking tendency in the consumer context (cf. Van Trijp and Steenkamp's VARSEEK-scale).

Consumer's variety seeking tendency is a general drive. However, whether or not this drive is expressed for a certain product or in a certain situation depends on a number of facilitating factors. Identification of these facilitating factors is one of the priorities in future research. The psychological underpinnings of variety seeking relate to those of exploratory behavior: behavior to regulate actual stimulation in accordance to the Optimum Stimulation Level. The motivational properties of varied behavior are attributed to the behavior's contribution to OSL. Variety seeking in buying and consumption behavior is a specific manifestation of exploratory behavior in that it only concerns to variety sought from exteroceptive sources.

Consumer's product choice behavior is modelled as a trade-off between instrumental motives, situational factors and variety seeking tendency. For many product categories, today's marketplace is characterized by perceived brand homogeneity with respect to functional product characteristics (e.g. Raju, 1984; Poiesz, 1988). This implies that instrumental motives are not very likely to be the determinant in the choice process for such products. Instead, positive motivations (cf. Rossiter and Percy, 1987) will be more important in choice behavior for such

products as these can be satisfied without interfering with satisfaction of the instrumental motivations. Variety seeking is an example of such positively motivated behavior that plays an important role in consumer choice behavior, particularly with respect to food products. Delivery of products that provide the required variety, may thus be a viable strategy for firms to maintain or even increase their market share.

REFERENCES

- Assael, H., 1987. Consumer Behavior and Marketing Action. Boston (Ma): Kent Publishing Company.
- Azjen, I. and Fishbein, M., 1980. Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs (NJ): Prentice Hall.
- Bass, F.M., E.A. Pessemier and D.R. Lehmann, 1972. An experimental study of the relationship between attitudes, brand preference and choice. Behavioral Science 17: 532-541.
- Berlyne, D.E., 1960. Conflict, Arousal, and Curiosity. New York: McGraw-Hill.
- Berlyne, D.E., 1963. Motivational problems raised by exploratory and epistemic behavior. In: Koch, S. (ed.): Psychology: a Study of Science vol. 5. New York: McGraw-Hill: 284-364.
- Berlyne, D.E., 1968. The motivational significance of collative variables and conflict. In: Abelson, R.P., E.A. Aronson, W.J. McGuire, T.M. Newcomb, M.J. Rosenberg and P.H. Tannenbaum (eds.). Theories of Cognitive Consistency: A Sourcebook. Chicago: Rand McNally: 257-266.
- Berlyne, D.E., 1971. What next? concluding summary. In: Day, H.I., D.E. Berlyne and D.E. Hunt (eds.) Intrinsic Motivation: a New Direction in Education. Toronto: Holt, Rinehart & Winston: 186-196.
- Deci, E.L., 1975. Intrinsic Motivation. New York: Plenum Press.
- Faison, E.W.J., 1977. The neglected variety drive: a useful concept for consumer behavior. Journal of Consumer Research 4: 172-175.
- Farquhar, P.H. and V.R. Rao, 1976. A balance model for evaluating subsets of multiattribute items. Management Science 22: 528-539.
- Fiske, D.W. and S.R. Maddi, 1961. Functions of Varied Experience. Homewood (Ill.): Dorsey Press.
- Garlington, W.K. and H.E. Shimota, 1964. The change seeker index: a measure of the need for variable stimulus input. Psychological Reports 14: 919-924.
- Givon, M., 1984. Variety seeking through brand switching. Marketing Science 3: 1-22.

- Givon, M., 1985. Variety seeking, market positioning and segmentation. International Journal of Research in Marketing 2: 117-127.
- Handelsman, M., 1983. Measurement of individual varied behavior across product classes -results and applications. In: Bagozzi, R.P. and A.M. Tybout (eds.) Advances in Consumer Research vol. 10. Ann Arbor (MI): Association for Consumer Research: 80-83.
- Handelsman, M., 1987. Varied purchase behaviour as a result of purchase history and perceived brand similarity. Journal of the Market Research Society 29: 293-315.
- Handelsman, M. and J.M. Munson, 1985. On integrating consumer needs for variety with retailer assortment decisions. In: Hirschman, E.C. and M.B. Holbrook (eds.): Advances in Consumer Research vol. 12. Provo (UT): Association for Consumer Research: 108-112.
- Hansen, F., 1972. Consumer Choice Behavior. New York: The Free Press.
- Hebb, D.O., 1955. Drives and the C.N.S. (Conceptual Nervous System). Psychological Review 62: 243-254.
- Hirschman, E.C., 1980. Innovativeness, novelty seeking, and consumer creativity. Journal of Consumer Research 7: 283-295.
- Hirschman, E.C. and M. Wallendorf, 1979. Correlations among three indicators of breadth and variation in sources of stimulation. In: Wilkie, W.B. (ed.): Advances in Consumer Research vol. 6. Ann Arbor (MI): Association for Consumer Research: 111-117.
- Hirschman, E.C. and M. Wallendorf, 1980. Some implications of variety seeking for advertising and advertisers. Journal of Advertising 9: 17-20, 43.
- Howard, J.A., 1989. Consumer Behavior in Marketing Strategy. Englewood Cliffs (NJ): Prentice Hall.
- Howard, J.A. and J.N. Sheth, 1969. The Theory of Buying Behavior. New York: John Wiley & Sons: 152-188.
- Hoyer, W.D. and N.M. Ridgway, 1984. Variety seeking as an explanation for exploratory purchase behavior: a theoretical model. In: Kinnear, T.C. (ed.): Advances in Consumer Research vol. 11. Provo (UT): Association for Consumer Research: 114-119.
- Jackson, L.F., 1984. Hierarchic demand and the Engel curve for variety. The Review of Economics and Statistics 66: 8-15
- Jeuland, A.P., 1978. Brand preference over time: a partially deterministic operationalization of the notion of variety seeking. In: Jain, S. (Ed.): AMA Research Frontiers in Marketing: Dialogues and Directions Educator's Proceedings, Series #43: 33-37.

- Kahn, B.E., M.U. Kalwani and D.G. Morrison, 1986. Measuring variety-seeking and reinforcement behaviors using panel data. Journal of Marketing Research 23: 89-100.
- Lattin, J.M., 1987. A model of balanced choice behavior. Marketing Science 6: 48-65.
- Lattin, J.M. and L. McAlister, 1985. Using a variety seeking model to identify substitute and complementary relationships among competing products. Journal of Marketing Research 22: 330-339.
- Lee, J., 1987. The demand for varied diet with econometric models for count data. American Journal of Agricultural Economics 69: 687-692.
- Lee, J. and M.G. Brown, undated. The consumer demand for food diversity. Research paper of the Department of Food and Resource Economics. Gainesville: University of Florida.
- Leuba, C., 1955. Toward some integration of learning theories: the concept of optimal stimulation. Psychological Reports 1: 27-33.
- Maddi, S.R., 1961. Exploratory behavior and variety seeking in man. In: Fiske, D.W. and S.R. Maddi (eds.) Functions of Varied Experience. Homewood (Ill.): Dorsey Press: 253-277.
- Maddi, S.R., 1968. The pursuit of consistency and variety. In: Abelson, R.P., E. Aronson, W.J. McGuire, T.M. Newcomb, H.J. Rosenberg and P.H. Tannenbaum (eds.) Theories of Cognitive Consistency: a Sourcebook. New York: Rand McNally and Company: 267-274.
- McAlister, L., 1982. A dynamic attribute satiation model of variety seeking behavior. Journal of Consumer Research 9: 141-150.
- McAlister, L., and E.A. Pessemier, 1982. Variety seeking behavior: an interdisciplinary review. Journal of Consumer Research 9: 311-322.
- McGuire, W.J., 1966. The current status of cognitive consistency theories. In: Feldman, S. (Ed). Cognitive Consistency: Motivational Antecedents and Behavioral Consequences. New York: Academic Press: 1-46.
- Mehrabian, A. and J.A. Russell, 1974. An Approach to Environmental Psychology. Cambridge (Ma): MIT Press.
- Meulenberg, M.T.G., 1989. Variation in food consumption: some aspects of measurement and empirical findings for the Netherlands. Tijdschrift voor Sociaal Wetenschappelijk Onderzoek van de Landbouw 4: 3-24.
- Penney, R.K. and R.C. Reinehr, 1966. Development of a stimulus variation seeking scale for adults. Psychological Reports 18: 631-638.
- Pessemier, E.A. and M. Handelsman, 1984. Temporal variety in consumer behavior. Journal of Marketing Research 21: 435-444.

- Poiesz, Th.B.C., 1988. The image concept: its place consumer psychology and its potential for other psychological areas. Paper presented at the XXIV International Congress of Psychology. Sydney, August 28-September 3, 1988.
- Raju, P.S., 1977a. Theoretical Perspectives on Exploratory Behavior: a Review and Examination of their Relevance for Consumer Research. Working Series in Marketing Research, number 67. University Park (PA): The Pennsylvania State University.
- Raju, P.S., 1977b. A Study of Exploratory Behavior in the Consumer Context. Unpublished PhD-thesis. Urbana (Ill.): University of Illinois.
- Raju, P.S., 1980. Optimum Stimulation Level: its relationships to personality, demographics and exploratory behavior. Journal of Consumer Research 7: 272-282.
- Raju, P.S., 1981. Theories of exploratory behavior: review and consumer research implications. In: Sheth, J.N. (Ed.): Research in Marketing vol. 4. Greenwich (CT): JAI Press: 223-249.
- Raju, P.S., 1984. Exploratory brand switching: an empirical examination of its determinants. Journal of Economic Psychology 5: 201-221.
- Robertson, T.S., 1971. Innovative Behavior and Communication. New York: Holt, Rinehart & Winston.
- Rogers, R.D., 1979. Commentary on "the neglected variety drive". Journal of Consumer Research 6: 88-91.
- Rolls, B.J., 1986. Sensory specific satiety. Nutrition Reviews 44: 93-101.
- Rolls, B.J., E.A. Rowe and E.T. Rolls, 1982. How sensory properties of foods affect human feeding behavior. Physiology and Behavior 29: 409-417.
- Rossiter, J.R. and L. Percy, 1987. Advertising and Promotion Management. New York: McGraw-Hill.
- Schuman, H. and Johnson, M., 1976. Attitudes and Behavior. Annual Review in Sociology 2: 161-207.
- Sheth, J.N. and P.S. Raju, 1974. Sequential and cyclical nature of information processing models in repetitive choice behavior. In: Ward, S. and P. Wright (eds.) Advances in Consumer Research vol. 1. Urbana (Ill.): Association for Consumer Research: 348-358.
- Shonkwiler, J.S., J. Lee, and T.G. Taylor, 1987. An empirical model of the demand for a varied diet. Applied Econometrics 19: 1403-1410.
- Steenkamp, J-B.E.M., 1989. Product Quality: An Investigation into the Concept and how it is perceived by Consumers, Assen (the Netherlands): Van Gorcum.