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**TIME PERCEPTION AND CONSUMER BEHAVIOR: THE IMPACT OF
SITUATIONAL CONSTRAINTS ON INNOVATIVENESS**

City University of New York

PH.D. 1984

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TIME PERCEPTION AND CONSUMER BEHAVIOR:
THE IMPACT OF SITUATIONAL CONSTRAINTS
ON INNOVATIVENESS

by

SHERIF AHMED SHERIF EL-AASI

A dissertation submitted to the Graduate
Faculty in Business in partial fulfillment of
the requirements for the degree of Doctor of
Philosophy, The City University of New York

1984

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1984

This manuscript has been read and accepted for the Graduate Faculty in Business in Satisfaction of the dissertation requirement for the degree or Doctor of Philosophy.

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Dan J. Sedow
Chairman of Examining Committee

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date

Ally / [Signature]
Executive Officer

Professor Leon Schiffman

Professor William Dillon

Supervisory Committee

The City University of New York

Abstract

TIME PERCEPTION AND CONSUMER BEHAVIOR:
THE IMPACT OF SITUATIONAL CONSTRAINTS
ON INNOVATIVENESS

by

Sherif Ahmed Sherif El-aasi

Advisor: Prof. Gary F. Soldow

The objective of this study is to investigate the relationship between time perception, as a personality trait, and innovativeness, i.e., the willingness to try new products; and how situational constraints, e.g., associative and dissociative reference groups, are likely to influence this relationship.

The research hypothesis predicts that time orientation may determine innovativeness. More specifically, future oriented persons would be willing to buy innovations which are of delayed gratification; present-oriented persons are prone to innovations which are of current consumption and gratification, and past-oriented persons are less likely to be willing to buy innovations in general. However, as the experimental hypothesis predicts, if strong situational constraints, e.g., group pressure, existed, time orientation, as a personality trait, can not predict innovative behavior, and the hypothesized relationship between time orientation and innovativeness might be disappeared.

The dependent variable of this study was

innovativeness, both innate and actual; the independent variable was time orientation (past, present, and future); and situational constraints, i.e., associative and dissociative reference groups, were the moderating variables. Three types of telephones and three types of televisions were used in this study. -

Three groups, i.e., one control and two experimental, of undergraduate students (594 students) at Baruch College, CUNY, were used in this study. T-tests and Chi-square analyses were used in analyzing data.

The findings of the study indicate that the relationship between time orientation and innovativeness is, by and large, theoretically sound and empirically confirmed. However, this relationship was found to be situational. That is, time orientation, a personality trait, is most likely to be useful in predicting innovative behavior in settings which are free from strong situational constraints such as associative reference groups' influence. However, the presence of weak situational pressures, e.g., dissociative reference groups' influence, does not affect the relationship between time orientation and innovation adoption behavior.

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CHAPTER I

INTRODUCTION

At the broadest level, the objective of this study is to investigate the relationship between time perception, as a personality trait, and innovativeness; and how situational constraints are likely to influence this relationship.

In the field of anthropology there has been an increasing awareness that people can perceive time in various ways, and that these perceptions affect the behavior of people in many ways (Graham, 1981).

Each society, with its corresponding culture, works out a certain conception of time which is accepted as natural by the majority of its members and used as a criterion for regulating their activities. Thus each society has patterns of behavior adopted to the concept of time which it includes in its members through the process of socialization. Within each society, significant groups such as social classes, town and country dwellers, or different generations, may diverge considerably in the way they conceptualize time and behave in relation to it, and their manner of using it (Rezohazy, 1972, p. 26).

There is an increasing awareness of time and its dominance in people's lives. Fraser (1967) points out that:

The vast array of opinions regarding the nature and meaning of time as recorded in the literature demonstrate that there has always existed in both humanistic and scientific thought an intense preoccupation with the temporal aspects of reality.

This abundance of views may be attributed to certain general causes: the idea of time is a constituent of all human knowledge, experience, and mode of time is an entity that seems to be connected with the functions of the mind; it is a fundamental feature of the physical universe. (p. 823)

However, "there has not been much study of the impact on behavior in general from varying perceptions of time. Yet it is recognized that this is a potentially key variable for understanding human behavior" (Hawes, 1979a, p. 37). Jacoby, Szybillo, and Berning, (1976) acknowledge this by noting that "the entire subject of how perceptions of recency arise and their effects on consumer behavior remains to be explored" (p. 335). Consequently, Hawes (1979a) emphasized the importance of investigating the role of varying time perception in influencing consumer's behavior. New product acceptance is one of the topics that Hawes suggests to be especially fertile area for investigation in relation to time perception. More specifically, how does perception of the past and future reflect desire for novelty and change, and for innovations, is a pregnant area of research (Hawes, 1979b).

Purpose of the Study

This research study examines the impact of varying time perception on innovativeness, i.e., the willingness of consumers to adopt new products. More specifically, the research question is: how does percep-

tion of the past, present, and future reflect desire for innovations; and how the mediation of situational constraints are likely to influence this desire for innovations.

Research into the behavior of consumers has uncovered evidence relevant to this study in that it suggests that past oriented consumers see past product quality as superior to today-product quality (Settle and Alreck, 1977); whereas future oriented persons agreed that product quality improves over time (Settle, Alreck and Belch, 1981a.)

Theoretical Background

Settle, Alreck, and Belch (1981a) point out that there are three kinds of time that influence buyer behavior: economic time, socio-cultural time, and psychological time. Economic time takes the perspective that time is a commodity. Research in this area examines the trade-offs and elasticities among time and possessions, such as money and material goods. Consumer search time, purchase priorities over time, and frequency of purchase all treat time in the economic sense.

Socio-cultural time focuses on consumers' behavioral patterns and perceptions of time acquired during the socialization process. Research in this area might focus on time-related differences by culture, ethnicity, sub-

culture, or demographic status. Life style and consumption patterns over a life span and family life cycle also implicitly include time as a variable (Settle et al. 1981a).

Psychological time includes the incorporation of predisposition related to time in the psychological makeup of the individual as durable personality traits (Settle et al., 1981a).

In this study, "time perception" or alternatively "time orientation", refers to this latter category of time. In this regard, Mead (1971) cites Lewin who defines time orientation as "the totality of the individual's views of his psychological future and psychological past existing at a given time" (Mead, 1971, p. 175).

Settle (1980) points out that "the conceptual frameworks and empirical results in this area [psychological time] can be arrayed across a spectrum from those aspects that are immediate, environmentally determined and short-lived to those that constitute durable personality traits lasting for an entire lifetime. . . . Recent research has been devoted to the development of instruments to measure individual personality traits relating to perception and orientation in time. These psychological aspects of time are beginning to be shown to affect both purchase and consumption of products and services" (p. 449). He adds, "because time is such an important

aspect of life, consumers could be expected to incorporate into their psychological makeup many relatively durable predispositions and perspectives relative to it. To the extent that these differ significantly among individuals within one social-cultural dimension, they can be seen as constituting the psychological aspects of time," (Settle, 1980, p. 449).

Lehman (1967) defines time orientation as "a person's general orientation toward the cosmic flow of time. An individual's time perspective indicates how close he feels toward the past, present, and future, or how afraid he is of any of these temporal aspects. A person's time perspective discloses whether or not he is living more in one than in any other of the dimensions of time" (p. 806). Thus, time orientation refers to "the preferential tendency discovered in individuals with respect to the past, present or future. In this sort of orientation, persons are viewed as predominantly past-oriented, present-oriented, or future-oriented. Such judgments are arrived at from an analysis of the mental content-fantasy production, verbalization in interviews, or in other specific testing situations" (Rabin, 1978, p. 295).

Time orientation is but one of the various values provided by culture. This has been reflected in the writings of many anthropologists. Kluckhohn and Strodtbeck (1961), for instance, identify a "limited

number of common human problems to which all people at all times must find some solution" (p. 10). They selected for study five value orientations ordering human behavior: (1) a culture's view of human nature (human nature orientation); (2) its views of man's relationship to nature (man-nature orientation); (3) the temporal focus of human life (time orientation); (4) the modality of human activity (activity orientation); and (5) the modality of man's relationship to other men (relational orientation).

One of the assumptions of the value orientation theory is that most of the observable patterns of action and thought give simultaneous expression to all of the value elements. The degree of influence of one or another of the value orientations upon a particular concrete behavior pattern may be appreciably greater than that of others, but it is not often that any one of them has no effect at all (Kluckhohn and Strodtbeck, 1961).

However, time orientation might be postulated as the basic orientation which is more closely interlaced with other value orientations. Hallowell (1955), in his discussion of the basic orientations provided by culture (i.e., self-orientation, motivational-orientation, spatiotemporal-orientation, object-orientation, and normative-orientation), stresses the significance of time orientation as (. . . an infinitely extended warp

upon which the woof of human happenings is woven" (p. 217). Hallowell bases his argument on the ground that temporal orientation is learned earlier than other cultural concepts. He cited Frank who indicates that motivational and normative orientations become integrated with the beginnings of temporal orientation and a growing sense of self at an early age. Frank is also cited as arguing that:

. . . the various time perspectives of a culture give the dimensions of the values that are operating in the lives of those living in that culture by specifying the conduct that must be observed in response to each situation, where in that immediate situation is to be seen as instrumental to a more remote or deferred situation (Hallowell, 1955, p. 94).

Similarly, Ornstein (1969) points out that:

Time is one of the continuing, compelling, and universal experiences of our lives, one of the primary threads which combine in the weave of our experience. All our perceptual, intellectual and emotional experiences are intertwined with time (p. 15).

Within the context of consumer behavior, time orientation has been increasingly recognized as an influential variable in consumer decision making. Graham (1981) emphasizes the importance of time perception in influencing consumer behavior based on that time perception is fundamental in relation to other perceptions. He explains:

Perception of time is an elementary construct in the building of a perceptual set. It is fundamental, and many other perceptions will be biased in one direction or the other depending on the person's

perception of time (Graham, 1981, p. 335).

He adds:

As a person's perception of time is fundamental to the construction of a perceptual set, it would seem natural that people with different perceptions of time would perceive different cue patterns and, thus, have a different organization of reality. According to Bettman, the different organizations of reality result in different patterns of consumption. This further supports the idea that researchers consider perception of time as an important variable when attempting to interpret consumer behavior (p. 341).

Thus, the importance of time orientation in relation to other orientations provided by culture, and in influencing behavior, in general, and consumer behavior, in particular, is evident.

Innovativeness

Hirschman (1980) notes:

Few concepts in the behavioral sciences have as much immediate relevance to consumer behavior as innovativeness. The propensities of consumers to adopt novel products, whether they are ideas, goods, or services, can play an important role in theories of brand loyalty, decision making, preference, and communications. If there were no such characteristic as innovativeness, consumer behavior would consist of a series of routinized buying responses to a static set of products. It is the inherent willingness of a consuming population to innovate that gives the marketplace its dynamic nature. On an individual basis, every consumer is, to some extent, an innovator: all of us over the course of our lives adopt some objects or ideas that are new in our perception (p. 283).

Hirschman points out that innovativeness has undergone two major conceptualizations. The first is captured in the definition by Rogers and Shoemaker (1971, p. 27)

that innovativeness is "the degree to which an individual is relatively earlier in adopting an innovation than other members of his social system." However, as Midgley and Dowling (1978, p. 230) observe, "This is essentially an operational definition since it is couched directly in terms of measurement or innovativeness, viz., the time taken for an individual to adopt." It is also hindered, as those authors point out, by potential measurement error in determining when an innovation was introduced into the social system.

However, a conceptual strength of the Rogers' and Shoemaker's (1971) definition, Hirschman points out, is its dependence on the notion that an innovation is "an idea, practice, or object perceived as new by the individual," (p. 19).

The second major conceptualization of innovativeness, Hirschman (1980) explains, was constructed by Midgley and Dowling (1978) who expressed the notion that innovativeness is "the degree to which an individual is receptive to new ideas and makes innovation decisions independently of the communicated experience of others" (p. 236). These writers viewed innovativeness as personality construct possesses to a greater or lesser degree by all individuals. It is believed to be a continuous variable normally distributed within a population of consumers and generalizable across products.

However, Midgley and Dowling (1978) point out that "to utilize our theory of innovative behavior to connect the construct with measurable properties via some set of intervening lower level hypotheses of rules of correspondence. One of these 'instances' (measurable properties) is the act of adoption; another may be a pencil and paper test on the appropriate variables" (p. 235). Consequently, they call this construct as "innate innovativeness," while what is observed and measured as innovative behavior will be termed "actualized innovativeness." It is obvious then, as Hirschman (1981) points out, that the notion of actualized innovativeness is consistent with innovativeness as conceptualized by Rogers and Shoemaker (1971), in that it deals with product adoption (measurable behavior) rather than willingness to adopt (predisposition to act in a certain way).

Time Orientation in Innovativeness

An examination of the meaning and nature of the concepts of time perception and innovativeness reveals that they are closely related. Innovativeness means receptiveness to novel things (i.e., innovations). It has been argued that uncertainty (Rogers, 1983) and ambiguity (Budner, 1962) are inherent in novel things. Likewise, future orientation is essentially concerned

with planning and expecting (Cottle, 1976). These activities involve uncertainty and ambiguity. Hawes (1979)

notes:

The past gives rise to the phenomenon of memory, the present to solitary moments-in-being, and the future to expectations. While there is certainty in the moment-in-being, there is the element of uncertainty in. . . expectation (p. 5).

Thus, a future-oriented person would be disposed to accept ambiguous stimuli (e.g., novel things). Budner (1962) points out that ambiguity arises in situations characterized by novelty, complexity, or insolubility. Settle, Alreck, and Belch (1981a) found that future orientation is positively and significantly related to tolerance for ambiguity. Tolerance for ambiguity is defined by Budner as "the tendency to perceive ambiguous situations as desirable" (in Robenson and Shaver, 1980, p. 401).

Thus, there is reason to believe that time orientation and innovativeness are related. And that time orientation influences and predicts innovative behavior.

The following discussion supports the above proposition. Midgley and Dowling (1978) cites Summers who suggests, on the basis of his study of generalized innovators, that:

. . . innovativeness may be a function both of situational variables, such as income and product involvement, and behavioral considerations. It may be that situational factors are unique to specific products and product categories and serve

to constrain the individual's innovativeness to particular areas, while his behavioral (sociological, psychological, etc.) make-up influences his basic tendency to innovate (Midgley and Dowling, 1978, p. 234).

It follows that, an individual's time perception, as a basic dimension of his psychological make up, influences his tendency to innovate.

Settle, Alreck, and Glasheen (1977) - in their study of whether time orientation is indicative of a particular life style pattern as revealed by the activities, interests and opinions - found that future orientation is significantly correlated with innovative behavior as measured by AIO. More specifically, future-oriented persons were found to be innovative. Also, future-oriented persons were found to be opinion leaders, cosmopolitan, ambitious, involved, and adventurous. These characteristics have been found as characterizing innovators (see Rogers, 1983). However, past orientation was found to be significantly correlated with conservativeness and cautiousness (Settle, Alreck, Glasheen, 1977). Conservativeness and cautiousness are characteristics of later adopters (Rogers, 1983). In his description of laggards, the last in a social system to adopt an innovation, Rogers (1983) notes "the point of reference for the laggard is the past. Decisions are often made in terms of what has been done in previous generations and these individuals interact primarily with others who also have

relatively traditional values" (Rogers, 1983, p. 250).

Hawes (1977) cites McGuire who argues that ". . . one's aspiration and actions as a consumer are greatly affected by the extent to which one is bound by the past and by one's view of the future." He goes on to point out that "tolerance for delayed gratification is significantly influenced by the extent to one's time binding and one's view regarding the future. One's relative evaluation of the past, present, and perceived future affects whether one is satisfied with the old and familiar or seeks newness and novelty" (Hawes, 1978, p. 11).

At the same vein, Trommsdorff and Lamm (1975) argue that:

. . . decision making and behavior partly depend on a person's belief in his own abilities to master the future or, alternatively, his attribution of outcomes to other forces. . . and on his adequate cognitive structuring of present and future. Present decisions are usually made on the basis of future outcomes. On the other hand, the present situation and past experience determine the setting of goals and the evaluation of possible future events (p. 349).

In addition, Juster is cited as suggesting that ". . . virtually everything people do, and virtually every product or service they buy, can be characterized as an investment in some future benefits. It is believed that the investment of time will tend to be greater if people are more farsighted (future-oriented) in terms of their relative valuation of present vs. future benefits. . . people

who place a great deal of value on the present and little value on the future are likely to invest less than people who weight the future more heavily" (Hawes, 1979, p. 11). An implied suggestion here, Hawes points out, is that time may well be perceived and valued differently depending on whether the activity is felt to be one of only current consumption or rather one of investment in some future goal (Hawes, 1979).

It might be concluded from the above discussion that innovativeness is a function of time orientation. And that present-oriented people would be expected to have more tendency to buy innovations which are of only current consumption and benefits, i.e., of immediate gratification such as food products and small appliances. In contrast, future-oriented people will tend to buy innovations which are of future benefits and utility, i.e., innovations of delayed gratification such as insurance, saving, housing innovations, and durable goods in general. However, it would be expected that past-oriented people are less likely to be willing to adopt innovations in general.

There is some evidence which supports this expectation. Settle, Alreck, and Belch (1981b) found that measures of future orientation and willingness to delay gratification were significantly correlated. Similarly,

Rabin (1978) found that future orientation is positively and significantly related to the tendency to delay gratification; and negatively related to impulsivity. In addition Settle and Alreck (1977) found, as mentioned earlier, that past-oriented people see past product quality as superior to today-product quality.

Situational Constraints

Since this study is to investigate the impact of time orientation, as a personality variable, on innovation-adoption behavior, the above proposed relationships between time orientation and innovativeness would be influenced by the existence of situational constraints, as behavior has been found to be a function of the interaction of person and situation (Bowers, 1973; Monson, Hesley, and Chernick 1982).

Kakkar and Lutz (1981) point out that "the relationship of personality to behavior has traditionally been a principal focus of attention in marketing researchers' efforts to understand the buyer. Based on various theoretical streams in psychology and social psychology, the assumption underlying two decades of research in this area has been that an individual personality is manifested in his behavior, including his purchasing behavior. . . . However, as has been pointed out in recent comprehensive reviews of this area (for example,

Kassarjian, 1971; Wells and Beard, 1973), the observed relationships between personality and behavioral variables have been disappointingly low. Whereas several reasons have been proposed for this lack of association, one of the major conclusions that has emerged has been that the influence of personality on behavior may be moderated by the situational variables" (p. 205). Kakkar and Lutz (1981) cites Wells and Beard arguing that:

The same personality trait can be made manifest in very different ways, depending on local and temporary conditions and circumstances. The need for esteem, for instance, can lead to the purchase of an expensive car. But if everyone on the block knows that Mr. Jones can afford an expensive car, and if all his friends own expensive cars, the need for esteem may lead to the purchase of a second-hand Ford (Kakkar and Lutz, 1981, p. 205).

Bowers (1973) upon his review of 11 empirical studies that evaluate the relative magnitude of person and situational influences in behavior, notes:

More generally, the data. . . clearly indicate that neither trait nor the situationist predictions are borne out. . . Furthermore, the interaction of persons and setting accounts for a higher percentage of variance than either main effect in 14 of 18 possible comparisons, and in 8 out of 18 comparisons the interaction term accounts for more variance than the sum of the main effects (p. 321).

And he concludes:

Obviously, and to some considerable extent, the person and the situation are codeterminers of behavior, and they need to be specified simultaneously if predictive accuracy is desired (p. 322).

Similarly, Mischel (1971) stated that:

We may predict best if we know what each situation

means to the individual, and consider the interaction of the person and the setting, rather than concentrating on the situation itself or on the individual in an environmental and social vacuum (p. 149).

Thus, recent perspectives on the traits-versus-situations debate have stressed the interaction between personal and situational determinants of behavior. "This interactionist perspective suggests that to predict human behavior one must possess the knowledge of both the characteristics of the person and the characteristics of the situation in which the person is momentarily located" (Monson et al., 1982, p. 385-386).

Considerable evidence exists concerning the existence of Person X Situation interaction. Sandell (1968) for instance, presented subjects with an inventory of beverages and a list of drinking situations and then asked the respondents to rate their willingness to drink each beverage in each situation on a seven-point scale. The results showed that neither individual differences nor differences in situations, when considered in isolation, were very strong predictors of beverage preferences. Sandell thus demonstrated that consumer-decision making was subject to intra-individual variability caused by the particular contexts in which such behavior occurred.

However, Mischel (1973, 1977) stated that it is not sufficient merely to demonstrate the existence of such interactions and to explain them in post hoc fashion.

Instead, he suggested that attempts need to be made to replicate unpredicted interactions or to specify in advance the form of those interactions.

Following this line of thinking, several different approaches have been taken in the attempt to specify the form of Person X Situation interactions. Monson, Hesley, and Chernick (1982), for instance, have been concerned with specifying which personality variables can and can not predict behavior. They point out that situations that are weak and ambiguously structured are more likely to have relatively different psychological meanings for different individuals. As a consequence, there should be considerable variance in the behavior exhibited by different individuals, and a knowledge of individuals' relative positions on trait dimensions should be of considerable benefit in predicting their behavior. More specifically, Monson et al (1982) have proposed that traits may be useful in predicting behavior when situational constraints are weak but not when they are strong.

Monson et al. (1982) tested this hypothesis in two empirical studies. The results of the two studies suggested the following conclusion:

. . . there are some settings when personality traits can be used to predict behavior and other settings where personality traits can not be used to predict behavior. Traits are most likely to be useful in those settings where situational pressures

are weak and where there are considerable individual differences in the behavior exhibited. However, traits are least likely to be useful in those settings where situational pressures are strong and where there are few individual differences in the behavior exhibited (Monson, Hesley, and Chernick, 1982. p. 397).

Within the context of this study on the relationship of time orientation and innovative behavior, situational constraints might be hypothesized to influence this relationship. Trommsdorff and Lamm (1975) point to the importance of situation in determining the impact of time orientation on decision making and behavior. They suggest:

FO [future orientation] can determine decision making and behavior due to a person's motivation to achieve some future goals and try to avoid certain other fear inducing future events. . . . Decision making and behavior partly depend on a person's belief in his own abilities to master the future or, alternatively, his attributions of outcomes to other forces, and on his adequate cognitive structuring of present and future. Present decisions are usually made on the basis of future outcomes. On the other hand, the present situation and past experience determine the setting of goals and the evaluation of possible future events. The kind of future events which people expect to occur, people's judgment of these events, and the people choice can often be extrapolated from the present situation (Trommsdorff and Lamm, 1975), (pp. 348-349).

On the other hand, Summers (1971) argues that innovativeness is determined by both situational and personal variables. He suggests:

. . . innovativeness may be a function both of situational variables, such as income and product involvement, and behavioral considerations. It may be that situational factors are unique to specific products and product categories and serve to constrain the individual innovativeness to particular

areas, while his behavioral (sociological, psychological, etc.) make up influences his basic tendency to innovate (Summers, 1971, p. 316).

Based on the above discussion, it might be hypothesized that situational constraints would exert significant influence on time orientation-innovativeness relationship. More specifically, it would be expected that if there is no situational constraints, or if the situational constraints are weak (e.g., the influence of dissociative reference groups), future orientation will cause the adoption of future-benefit innovations; present orientation will cause the adoption of innovations which are of immediate gratification; and past orientation will preclude the adoption of new products. However, if strong situational constraints exist (e.g., the presence of recommendations of associative reference groups), time perception might not seem to influence innovativeness.

Thus, for time perception, as a personality variable, to be a useful predictor of innovative behavior, situational constraints should be considered. Hence, in this study, situational constraints will be considered under the assumption that the strength of situational constraints (strong or weak) will determine the extent to which time orientation predicts innovativeness.

Statement of the Problem

The major theme of the proposed study is that time

orientation (past, present, or future) is a main determinant of consumer's innovativeness, i.e., his willingness to adopt innovations.

Time orientation, as discussed above, is a basic value that is learned at an early age, gives the dimensions of the values that operating in the lives of those living in a certain culture by specifying the conduct that must be observed in response to each situation (Hallowell, 1955), and is fundamental to all our perceptual, intellectual, and emotional experiences (Graham, 1978, and Ornstein, 1970).

Innovativeness, on the other hand, is vital for the adoption and diffusion of innovations. Rogers (1983) points out that "Because increased innovativeness is the objective of change agencies, it became the main dependent variables in the diffusion research. . . . Innovativeness indicates behavioral change, the ultimate goal of most diffusion programs, rather than cognitive or attitudinal change" (p. 242). Hirschman (1980) explains the importance of innovativeness:

Few concepts in the behavioral sciences have as much immediate relevance to consumer behavior as innovativeness. The propensities of consumers to adopt novel products, whether they are ideas, goods, or services, can play an important role in theories of brand loyalty, decision making, preference, and communication. If there is no such characteristic as innovativeness, consumer behavior will consist of routinized buying responses to a static set of products. It is the inherent willingness of a consuming population to innovate that gives the market-

place its dynamic nature. On an individual basis, every consumer is, to some extent, an innovator; all of us over the course of our lives adopt some objects or ideas that are new in our perception (283).

In spite of the essential role of time perception in influencing consumer behavior, as discussed above, time perception has not received the deserved attention of consumer behavior researchers. Hawes (1979), upon his extensive review of the literature on the role of time in consumer behavior, concluded that: "There has not been much study of the impact on behavior in general from varying perceptions of time. Yet, it is recognized that this is a potentially key variable for understanding human behavior" (p. 37).

In addition, there has been little effort to relate time perception to innovativeness. This area of research is "particularly pregnant" (Hawes, 1979, p. 41). This research gap is best revealed by the list of 32 generalizations by Rogers (1983, pp. 251-259) which summarizes 58 percent (i.e., 3,974) of empirical studies in diffusion of innovations in which innovativeness was the dependent variable. None of the 32 generalizations can be equated with time perception in connection with innovativeness. This might reflect what Arndt (1974) has noted that "a look at the dimensions explored by marketing diffusion research indicates that the marketing diffusion studies have tended to focus on one or a few factors in the

diffusion process, leaving out other variables of possible importance. Hence, the studies have been somewhat narrow and have lacked sufficient theoretical bases" (Arndt, 1974, p. 23).

Ostlund (1973, 1974) emphasized the importance of perceptual variables in improving the predictive quality of innovativeness. However, very little research, he points out, has been reported in diffusion literature on the role of perceptual variables in predicting innovative behavior. Hence, the use of time perception, as a perceptual variable, in the proposed study would be expected to enhance the predictability of an individual's adoption-behavior, for time perception, as mentioned earlier, is "an elementary construct in the building of a perceptual set. It is fundamental, and many other perceptions will be biased in one direction or the other depending on the person's perception of time" (Graham, 1981, p. 335).

In conclusion, the study of the relationship between time perception and innovativeness is badly needed, and the proposed study is intended to partially fill the research void in this area.

Implications of the Study

This study attempts to integrate concepts from social psychology and consumer behavior into a research

method for the exploration of an empirical situation. More specifically, this study is to stress a cultural parameter, and variable (i.e. time perception) as it relates to innovativeness (i.e., willingness to adopt new products.) In this way, this study is adding to the existing state of knowledge with regard to the adoption of new products as it represents the first investigation which relates time perception to innovativeness.

An important theoretical implication of this study concerns the role of personality factors in influencing consumer behavior. Kassarian (1973, 1981) has pointed out that personality factors have provided some of the most disappointing results in explaining consumer behavior. He cites four possible causes for the failure of personality studies to explain variation in buyer behavior: (1) few studies have been designed to test specific hypotheses obtained from a theoretical base, (2) an expectation that the influence of personality variables to explain too large a portion of the variance in consumer behavior, (3) the instruments used are seldom designed to measure traits that could be expected to directly influence consumer decisions, and (4) the tests used are often standardized on special groups, rather than consumers in general.

Another reason of the failure of personality in explaining consumer behavior is the ignorance of situa-

tional influence. A person's behavior in general - and consumer behavior in particular - have been found to be a function of the interaction of person and situation (Bowers, 1973; Monson et al., 1982; Russell and Mehrabian, 1976; Sandell, 1968). Kakkar and Lutz (1981) acknowledge this as they note ". . . the observed relationships between personality and behavioral variables have been disappointingly low. Whereas several reasons have been proposed for this lack of association, one of the major conclusions that has emerged has been that the influence of personality on behavior may be moderated by the situational variables" (p. 205). Similarly, Bowers (1973) concludes ". . . to some considerable extent, the person and the situation are codeterminers of behavior, and they need to be specified simultaneously if predictive accuracy is desired (p. 322).

Thus, by investigating the role of time perception, as an aspect of personality, in influencing innovativeness, as a dimension of consumer behavior, taking in account the influence of situational variables, it is believed that the proposed study will contribute to the knowledge with regard to how personality factors influence consumer behavior.

Finally, since this study is designed to investigate time perception as a determinant of innovativeness, it would provide a basis for audience segmentation strategies.

Rogers (1983) points out that one of the main users of research on the variables that determine innovativeness is to provide a basis for audience segmentation strategies by diffusion agencies. "Audience segmentation is a diffusion strategy in which different communication channels or messages are used with each audience segment. This strategy has the advantage of breaking down a heterophilus audience into a series of relatively more homophilous subaudiences" (Rogers, 1983, p. 262).

CHAPTER II

REVIEW OF RELATED LITERATURE

In Chapter I time perception was presented as a psychological variable which significantly influences human behavior and, consequently, buying and consumption behavior. It was expected that an individual's time orientation would have significant impact on his innovative behavior under the assumption that situational constraints are not existing; otherwise, the hypothesized influence of time orientation on innovativeness might be more complicated.

This chapter is devoted to the review of related literature on time perception and innovativeness. Furthermore, a discussion of how situational constraints operate to affect the hypothesized relationships between time orientation and innovativeness is to be presented.

Time Perception

Temporality and temporal experience have been of interest to psychologists since the inception of their discipline (Rabin, 1978). Rabin (1978) points out that in more recent decades, with the development of personality theory and research, the relationships of the experience of time to personality variables has received

considerable attention from a large group of investigators such as Doob (1971); Fraisse (1963); and Wallace and Rabin (1960).

Mead (1971) points out that time perspective, as a theoretical construct, was introduced by Frank (1939) although similar ideas had been presented earlier by Lewin (1935) and related concepts have been of significance to other personality theorists, such as Freud (1953) and Piaget (1958). The construct later, Mead explains, became of central importance in the theoretical development of Lewin (1944) and was particularly significant to his work with levels of aspirations. This construct is, then, one of considerable importance to both theory and experiment in the field of human motivation (Mead, 1971).

Fraser (1967) points out that the vast array of opinions regarding the nature and meaning of time as recorded in the literature demonstrate that there has always existed in both humanistic and scientific thought an intense preoccupation with the temporal aspects of reality. This abundance of views may be attributed to certain general causes: the idea of time is a constituent of all human knowledge, experience, and mode of expression; time is an entity that seems to be connected with the functions of the mind, it is a fundamental feature of the physical universe (Meade, 1967).

Rabin (1978) indicates that time orientation, as a major concept, or variable, of temporal experience, has evolved and has become dominant in the empirical research that concerns itself with personality-temporality relationships. Rabin (1978) points out that there are several different ways in which the term "time orientation" is used in the literature. Most common is the reference to the person's awareness of the current location in time. It is a demonstration of the functioning of the "time sense," regardless of what its origin may be constructed to be. The orientation may refer to conventional units of time such as the day of the week, month and year (Rabin, 1978).

Another use of the term time orientation refers to the preferential tendency discovered in individuals with respect to the past, present, or future (Rabin, 1978).

In this, more global, orientations, persons are viewed as predominantly past-oriented, present-oriented, or future-oriented (Rabin, 1978).

The emphasis of this dissertation is on time orientation, i.e., the individual's perception of the time zones: the past, the present, and the future. In this regard, Trommsdorff and Lamm (1975) indicate that the psychological experience of time contains the experience of the past, the present and the future. This experience

can be cognitively represented in the mind of a person; thus, cognitive abilities and intellectual training would be relevant for the way a person conceives of time. Furthermore, the motivational structure of a person, Trommsdorff and Lamm argue, determines the experience of time to some extent; past, present, and future contain events which are more or less desirable. Hence, the motivational tendency to approach or to avoid specific events is relevant for a person's psychological experience of the future (Trommsdorff and Lamm, 1975).

In this concern, Rabin (1978) argues that the temporal orientation of a person may be closely related to his developmental ability or capacity, or willingness to postpone gratification. The impulsive, the "here and now" individual is present-oriented. The planner is future-oriented and the depressed, guilt-ridden is past-oriented. Thus, temporal orientation, Rabin states, "evolves as a characterological, though not unmodifiable, trait for there is considerable consistency and stability in observation and experimentation with this aspect of human behavior and experience" (Rabin, 1978, p. 296).

The Relative Significance of the Past, Present, and Future

Ideas about the relative significance of the past, present, and future for understanding the meaning of time have long been debated by philosophers and psych-

ologists. Cottle (1976) points out that philosophical and psychological theorists on time perception can be placed in groups, and each group considers a particular time to be more important than the other zones.

Cottle (1976) presented different view points on this issue. He cites Bergson who argued that the true self, as he called it, emerges when the perceptions one has in the present and influenced by recollections in such a way that one is unable to differentiate between present sensations and recollections from the past. Bergson believed that for knowledge of the self to exist, one must understand not only what is happening in the present but also how the past has influenced one's perception of the present in the present. Bergson argued that one perceived present sensations at the same time one reflects on prior sensations. Consideration of the future in the form of anticipation of expectation, Bergson contended, gives meaning to our lives and helps us to develop a sense of hope. Thus, Bergson views that if we want to understand the nature of living in time, we must examine the process of memory (Cottle, 1976).

While Bergson advocates for what might be called a "past dominance," Cottle (1976) points out, Whitehead, however, stands as advocate of a "present dominance." He is cited by Cottle (1976) as arguing that "the under-

standing which we want is an understanding of the insistent present. The only use of knowledge of the past is to equip us for the present. The present contains all that there is. It is holy for it is the past and it is the future" (p. 22).

Cottle (1976) also points out that the third logical position, what might be called "future dominance," is found in the writings of Binswanger and May. These two theorists emphasize not only the significance of anticipation or expectation of the future, but the developing or becoming nature of our experience of time. May is cited by Cottle (1976) arguing that ". . . that the more crucial fact about existence is that it emerges --that is, it is always in the process of becoming, always developing in time, and is never to be defined at static points," (p. 23). Similarly, Binswanger, cited in Cottle (1976), declared that ". . . the primary phenomenon of the original and authentic temporality is the future, and this future in turn is the primary meaning of existentiality, of the designing of one's self 'for one's own sake'" (in Cottle, 1976, p. 23).

A similar position, Cottle (1976) points out, in which the future is considered the most important zone is taken by Kelly who notes:

Behavior is given its consistency by attempts to anticipate events. The particular behavior in which an individual engages presumably reflects

the anticipation he has for the future, and his anticipations are expressed in his constructs (in Cottle, 1976, p. 23)

Essentially, Kelly states that the experience of time is future-oriented. Time is constantly moving toward the future, Cottle (1976) points out, and while we may well be experiencing momentary sensations or recalling prior sensations, our major life activity is preparing for the future. This preparation occurs through the acts of anticipation or expecting. Because we cannot return to a prior time through any effort of our own, we must use the present to prepare for the future (Cottle, 1976), p. 23).

Cottle (1976) concludes the forgoing review of the relative importance of the past, present, and future in relation to persons' behavior, by arguing that:

. . . to understand our perceptions of time, we must consider all three time zones equally. We all know the experience of recalling the past, of watching events happen in the present, and of anticipating other events in the future. But where individuals - and societies and culture - differ is in the significance they attribute to each of the three time zones as they attempt to understand their own perceptions of time. . . To suggest, therefore, that a culture or a person is oriented toward the future means only that a great value is placed on doing "future-oriented" tasks, such as saving money for the future or even predicting the future. It does not mean that the culture or person is totally unaffected by recollections of the past or by experiences in the present. It also does not mean that one's recollections of the past and one's experiences in the present play no part in one's expectations of the future" (pp. 24-25).

The Impact of Time Perception on Behavior

Time perception, as Stated in Chapter I, is "an infinitely extended warp upon which the woof of human happenings is woven" (Hallowell, 1955, p. 227). "All our perceptual, intellectual and emotional experiences are intertwined with time" (Ornstein, 1969, p. 15).

Cottle and Klineberg (1974) have presented an especially detailed analysis of the ". . . person's ability to act in the present in the light of his anticipation of relatively distant future events." According to them, there are "entailed three central processes that are uniquely developed in human beings:

- (1) the prodigious capacity to manipulate symbolic representations of reality create images of absent events and believe in their validity;
 - (2) the ability to integrate these symbolic representations into ongoing problems of action and meaning, being images of the future into an implied continuum with conceptions of past and present experience; and
 - (3) the present experiencing of pleasure or discomfort generated solely by these representations. . . "
- (p. 16).

Thus, human behavior, might be viewed as closely related to future time perspective, especially the person's anticipatory function.

Rabin (1978), in his study on the relationship between time perception and the ego, predicts a positive relationship of future temporal orientation to the tendency to delay gratification; and a negative relationship to impulsivity. He indicates that impulsivity, the tendency to express drive immediately upon arousal, is the obverse of delay. Delay involved the capacity for self-control, postponement of need gratification and of drive expression. Rabin's study confirmed the hypotheses, showing that temporal experience does influence human behavior. Rabin (1978) concludes: "We might almost regard temporal perspective itself as a personality variable, as one of the ego's constituents, rather than anything extrinsic to which variables of personality might be related" (p. 304).

Determinants of Time Perception

Trommsdorff and Lamm (1975), whose emphasis was on future orientation, argue that future orientation (FO) is determined by social learning experience which probably is not the same for everyone but similar for persons with the same life style, background, traditions, values and child rearing experiences - for persons belonging to the same social groups.

Trommsdorff and Lamm (1975) point out that social variables, such as status and role, may be used for

grouping people into some broad categories which take into account differences in cognitive development, learning and motivation. Social status partly accounts for a specific learning experience affecting the cognitive, evaluative and affective style of a person. Social roles determine people's expectations to some degree so that this variable may be used also to predict differences in various aspects of FO (Trommsdorff and Lamm, 1975).

In the following, the influence of low and high social class on temporal orientation will be analyzed; in addition, age and sex are to be selected as bio-social roles (Trommsdorff and Lamm, 1975) to study their relative impact on people's time orientation.

Impact of Social Class. Trommsdorff and Lamm (1975) argue that persons of high social class might be assumed to have a better cognitive learning experience than persons of low social class. They based their assumption on evidence from studies on cognitive abilities of persons from different social status which shows that the verbal code, the ability for abstraction, differentiation and long-term planning is better developed in middle than in low status people.

Several studies have confirmed the relationship of social class to time orientation. LeShan (1952) found that children from the middle class invented

stories covering a larger period of time than working class children. The author assumed that middle class children are more oriented toward distant projects than working class children, who are taught not to look for distant events which they probably cannot attain. He thus explained the above finding by the class-related socialization experience of these children.

Schneider and Lysggard (1958) found that middle class children are more willing than working class children to postpone a reward; they preferred to save a larger part of a fictitious winning. This greater capacity of middle class children to delay reward may be attributed to their ability to look further into the future than lower class children, and may be related to high achievement motivation and the ability to tolerate frustration (see Mischel, 1974).

A relation of present social standing and time orientation was demonstrated in Teahan's (1958) finding that children who had more success in school thought more about the future and had wider temporal perspective than children at the bottom of the class.

Nowotny (1975) has stated that "the poor have less time; they tend to live in the present" (p. 327). Luscher (1974) cites the findings of several studies to the effect that lower class children have a shorter time perspective than middle class children.

Finally, Trommsdorff and Lamm (1975) found that persons from high social class named significantly more concerns (hopes and fears) and had a greater number of different categories of concerns than persons of low status. They also had a more extended FO than low status persons. The author concluded, then, that the FO of better educated persons is characterized by a larger number and a greater variety of concerns, and a longer time extension in the future than is the case for less educated persons (Trommsdorff and Lamm, 1975).

Impact of Age. Based on their assumption that time orientation is determined by learning experience, Trommsdorff and Lamm (1975) argue that the learning experience of an adult will be greater than that of an adolescent. His ability to differentiate and his access to information will be more developed than for adolescents. It would be in line with this assumption, Trommsdorff and Lamm (1975) argue, to expect a more complex FO for adults as compared with adolescents. In their study, Trommsdorff and Lamm (1975) found no difference in the variety of future-related concerns between adolescents and adults. However, persons from these two age groups differed significantly in the distribution of their concerns to specific categories of future events (Trommsdorff and Lamm, 1975).

In another study by Calabresi and Cohen (1968),

it was found that the correlation between age and time perception was "not prominent." However, Lehman (1967) points out that old people tend to turn away from the future and to dwell mainly in the past.

Impact of Sex. Trommsdorff and Lamm (1975) hypothesize a different cognitive orientation toward specific future events for persons of different sex. They point out that research on sex-role learning has shown that sex-typed behavior and interests are socialized since early childhood. Females, Trommsdorff and Lamm argue, are more oriented toward social-emotional (expressive) behaviors while males are more oriented toward instrumental roles. The traditional socialization experience directs the concerns of females more toward family-related problems and the concerns of males more toward public problems (Trommsdorff and Lamm, 1975).

To test the above hypotheses, Trommsdorff and Lamm (1975) conducted a study whose results indicate that females had a more extended future time perspective, with regard to family-related than to job-related concerns. For males (with the exception of low status males who had a more extended FO with regard to job related concerns), the family and job-related concerns were viewed with about the same future time extension (Trommsdorff and Lamm, 1975).

Cottle (1976), in his psychological investigation

of perceiving time with men and women, concluded that "men experience a feeling of being disengaged from the present which women do not feel. . . . Women tend to experience immediate gratification from their present efforts and work, whereas men consider expectation of future achievement to be more important than personal achievements experienced in the present" (p. 80).

Innovativeness

In the vast majority of diffusion studies, the term "innovation" has been applied to highly unique, advanced ideas, often based upon significant technological achievement. However, as market researchers have been drawn into the diffusion research fold, varying definitions have been applied to the term (Ostlund, 1973). "The various approaches that have been used to define a new product can be classified as firm oriented, product-oriented, market-oriented, and consumer-oriented" (Schiffman and Kanuk, 1983, p. 502). A firm-oriented approach considers a new product as anything not previously marketed by the firm (Marcus and Tauber, 1979). However, this definition fails to recognize that products new to the firm are not necessarily new to the consumer.

The product-oriented approach emphasizes the product attributes, and how these attributes would af-

fect established consumer usage patterns. Robertson's (1967) classification of new products into continuous, dynamically continuous, and discontinuous innovations is an example of the product-oriented approach. This classification considers the extent to which a new product is likely to be disruptive to the consumer's already established behavioral patterns. Within this framework, Robertson (1967) define the three categories as follows: (1) a continuous innovation is a product that is a minor variation of existing products, requiring little adjustment as to the established behavioral patterns of buyers, (2) a dynamically continuous innovation is a product that has somewhat disruptive effects on established behavioral patterns, although not requiring harsh readjustment. An example is "touch phone," and (3) a discontinuous innovation is an innovation that represents a sharp break from the past, requiring the establishment of new behavioral patterns. Examples would include television and computers (Robertson, 1967). Ostlund (1973) points out that most new products that consumers encounter are, by this classification, either continuous or dynamically continuous innovations. In fact, as Ostlund stated, the researcher typically has difficulty in locating even dynamically continuous innovations for study.

The market-oriented approach takes into account

the proportion of the potential market that has purchased the product, or how long the product has been available in the market (Chaterji, Lansdale, and Stasch, 1981). Both of these market-oriented definitions are basically subjective because they leave to the researcher the task of establishing the degree of sales penetration within which it is appropriate to call the product an innovation or how long a product can be on the market and still be considered "new" (Schiffman and Kanuk, 1983).

The consumer oriented approach considers any product which a consumer perceives as new as a new product. That is, "An innovation is an idea, practice, or object perceived as new by the individual. . . . It is the perceived or subjective newness of the idea for the individual that determines his reaction to it. If the idea seems new to the individual, it is an innovation." (Rogers and Shoemaker, 1971, p. 18). One caveat is stated by Zaltman and Stiff (1973) concerning the use of the perception of the individual as a criterion for defining innovations is that perception will vary according to the psychological state of the individual and according to the different contextual situations for the buyer.

However, Chaterji, Lonsdale, and Stasch, (1981) point out that single-criterion approaches to defining

new products are not very useful. Chaterji et al. (1981) cite several researchers who consider composite-criterion approaches to define innovations. For example, Tauber (1977) argues that both the novel attributes in a product and the context to which behavioral changes are required in the consumer are important. Lawton and Parasurman (1980) also consider both these dimensions in defining new product. Henry (1979) integrates the concepts of attribute newness, consumer perception, and the present activities of the firm into a classification of innovations.

Conceptualization of Innovativeness

Innovativeness has been the subject of lengthy and extensive investigation in several areas of behavioral science and received great attention by consumer researchers (e.g. Hirschman, 1980; Midgley, 1976; 1977; Midgley and Dowling, 1978; Robertson, 1971; Rogers, 1983; Rogers and Shoemaker, 1971, Schiffman, 1971, 1972, 1973, 1974). However, there is still a fundamental difficulty lies in the definition and measurement of the innovativeness construct.

Rogers and Shoemaker (1971) define innovativeness as "the degree to which an individual is relatively earlier in adopting an innovation than other members of his system," with an accompanying footnote to the effect that:

"By relatively earlier is meant in terms of actual time of adoption, rather than whether the individual perceives he adopted the innovation relatively earlier than others in his system" (p. 27). However, as Midgley and Dowling (1978) observe, "This is essentially an operational definition since it is couched directly in terms of the measurement of innovativeness, viz., the time taken for an individual to adopt. It is also hindered, as those authors point out, by potential measurement error in determining when an innovation was introduced into the social system.

However, a conceptual strength of the Rogers and Shoemaker (1971) definition, Hirschman (1980) points out, is its dependence on the notion that an innovation is "an idea, practice, or object perceived as new by the individual," (p. 19). Although there may be large variations in the perception of product "newness" among consumers, which confound measuring their roles as innovators, this diversity of perceived novelty, Hirschman (1980) argues, is closely tied to the cognitive origins of innovativeness.

The other major conceptualization of innovativeness, in addition to Rogers and Shoemaker's (1971), was constructed by Midgley and Dowling (1978) who, after an extensive literature review, expressed the notion that innovativeness is "the degree to which an individual is receptive to new ideas and makes innovation decisions

independently of the communicated experience of others" (p. 236). These writers viewed innovativeness as a personality construct possessed to a greater or lesser degree by all individuals. It is believed to be a continuous variable normally distributed within a population of consumers and generalizable across product (Hirschman, 1980). However, as Hirschman points out, Midgley and Dowling put forward no explanations of the causes generating innovativeness, nor did they discuss why some individuals exhibited more innovativeness than others. In this regard, Hirschman (1980) indicates that there is a lack concerning the investigation of origins and causes of innovativeness. One explanation for this lack, Hirschman points out, is that innovativeness may have been assumed constant for each individual; that each consumer is "born" with a certain allotment of innovativeness and this personality trait remains invariant over his/her life course. "However, given the fact that innovativeness, has been found highly correlated with such variables as educational attainment, occupational status, and urbanization. . . it would seem more plausible that it is not a genetic constant, but rather socially influenced" (Hirschman, 1980), p. 284).

In this study, two types of innovativeness, i.e., innate innovativeness and actualized innovativeness, will be considered. Innate innovativeness is defined as a

personality trait, i.e., a predisposition to act in a certain way in regard to innovation adoption, possessed to a greater or lesser degree by all members of a society. Actualized innovativeness, on the other hand, is defined in terms of behavioral intentions to buy new products. It will be hypothesized that each kind of time orientations (i.e., past-, present-, or future-orientation) causes a different type of innovativeness. For instance, although both present- and future- oriented consumers might be innovative, it would be expected, as mentioned in Chapter I, that present oriented consumers will innovate with regard to products and product categories which are of immediate gratification, while future-oriented consumers would be innovative regarding future-benefit innovations. However, past-oriented consumers are expected to be resistance to major functional or discontinuous innovations; and they might be expected to innovate with regard to "me-too" or continuous innovations, which are similar to the old products they favor. (These expectations are made under the assumption that there are no situational constraints, as will be discussed later).

Determinants of Innovativeness

There is a diversity of variables which have been investigated in relation to innovativeness. Robertson (1971, pp. 100-101); Pizman (1972, pp. 203-209); Engel,

Kollat, and Blackwell (1973, p. 600); Rogers (1983, pp. 260-261); and Schiffman and Kanuk (1983, p. 526) have tabulated the results of empirical studies relating consumer innovativeness to socioeconomic, attitudinal, personality, product, communication, and purchase and consumption factors. For such factors there are numerous studies suggesting both positive and negative relationships with innovativeness and many indicating no relationship whatsoever.

Essentially these studies can be categorized into the following four categories (Kegerreis et al., 1970) which will provide the bases for the next part of the discussion.

Economic Variables

Kegerreis et al. (1970) point out that of the economic variable, income is the most frequently tested correlate of innovativeness. Innovators among consumer (Bell, 1963), among farmers (Rogers and Stanfield, 1968), and among physicians (Coleman, Katz, and Menzel, 1966) have been found to be earning more, or to possess more wealth than either the population at large of the later adopters. Kegerries et al. (1979) indicate that there is also an income component in social class that correlates positively with innovativeness, as shown in a study of the early adoption of a new household appliance by Robertson

(1966). However, as Kegerreis et al. (1970) points out, the consistency of the findings tends to break down both as the price of the innovation is less significant in the decision and as the product class involved is more familiar to the entire population. For example, income is likely to be a relatively insignificant factor in the decision to adopt a new type of coffee, or a new brand of detergent (Kegerreis et al., 1970). Consequently, Kegerreis et al. (1970) proposed that consumers with higher incomes are more likely to be among the earliest adopters of innovations that include somewhat formal decision making, that are priced above the trivial level, and that may lead to changes in behavior patterns.

Kegerreis et al. (1970), in their study of the adoption and diffusion of the automotive diagnostic center, tested the above expectations that the innovators would have higher than average income. The data showed that a positive relationship does clearly exist between income and innovative behavior.

Social Status

Engel and Blackwell (1982) state that the social status appears to be positively related to innovativeness. Kegerreis et al. (1970) argue that status can be associated with innovative behavior when status is measured by variables of income, education, value of home,

and occupation. However, the most acceptable single variable, Kegerreis et al. point out, for measuring or establishing status is occupation. Using the Reiss index of occupation status, Kegerreis et al. (1970) found that among the earliest adopters of a new automobile service, one in three had an occupational index higher than 75. This is compared to a ratio of only one in seven for the population at large (or noninnovators). The 75 point level of the socioeconomic index consists of only the highest status professions such as architects, scientists, lawyers, doctors, engineers, auditors, and top management positions.

Also, Moore (1968) found that innovators of color television sets displayed higher family income and relatively high education and occupational status by the husband, high valuation of residence, and ownership of other entertainment appliances. A similar socioeconomic profile was found by Robertson (1967) for "touch tone" telephone adopters and by Boone (1970) for adopters of community antenna television system service.

Communications

In the context of diffusion of innovations, communications is descriptive of the process by which consumers acquire and disseminate information about innovations (Kegerreis et al. 1970). Communications

obviously vary in their influence upon the receiver. Personal sources have long been regarded as more influential than impersonal sources (see, for example, Rogers, 1983). In the broadest way, Cox (1963) has distinguished among sources at these levels: marketer-dominated, consumer-dominated, and neutral. Presumably, because of the obvious bias, consumers would consider marketer-dominated sources to be least persuasive. However, in some cases, these may offer a variety of kinds of information about the innovation, among which might well be technical data which could have a neutral polarity for the consumer (Kegerreis et al., 1970).

Intragroup communications exert considerable influence upon their members, depending upon the psychological profile of the individual, the nature of the product, the visibility involved and other variables (Kegerreis et al., 1970). Examples are studies by Venkateson (1966) and by Stafford (1966). Both these research projects used laboratory situation, complete with naive subjects, artificial group pressures, and confederate (this will be discussed later in detail when discussing the situational constraints). Both researchers found distinct influence. Similarly, Myers (1966) arrived at the same conclusion when he studied in another situational scenario the varying effects of offering a new product to

subjects by means of a recognized leader, and a non-leader. Robertson (1967) hypothesized that the influence of an individual depends upon his being recognized as an opinion leader, a status dependent upon his reflection of group norms.

In many cases, the first knowledge of commercial innovations come to consumers by way of marketer-dominated media. The Rogers and Stanfield (1968) synthesis shows that mass media exposure and contact with "change agencies" were both importantly associated with innovativeness. Subsequent inputs of information appear to change (as to origin) as the adoption process proceeds from awareness to interest then to evaluation and to trial (Rogers and Shoemaker, 1971). Kegerreis et al. (1970), in their study of early users of the first automobile diagnostic center, found that mass-media sources (magazines and radio publicity) were most important for disseminating general knowledge about such services and awareness of the specific service offered in the city. However, early users' final pretrial information was drawn primarily from information discussions with personal sources. Similarly, Engel et al. (1966) found advertising to be effective at the awareness stage for new drug products.

The importance of word-of-mouth in influencing a buyer's decision to adopt an innovation is well

documented. for example Ditcher (1966) reported that the power of word-of-mouth communication lies in the speaker's lack of selfish interest. Also, Kegerreis et al. (1970), in their study referred to above, asked the respondents what they had learned about the innovation that made them want to try it and what was the source of this influence. The data showed that when personal contact with the seller is included, word-of-mouth sources constitute almost 60 percent of the influence on those innovative adopters of this service who remembered where they had heard the influential statement (Kegerreis et al., 1970).

Product-Related Variables

Product related variables encompass two types of variables which influence innovativeness: (1) the extent of "newness" of a product, and (2) product characteristics.

In terms of "newness", innovations are classified, as indicated earlier, into continuous; dynamically continuous and discontinuous (Robertson, 1967). Another classification develops two classes of new product: strategic innovations, involving little change for either the firm or the consumer; and, functional innovations, offering obvious advantages such as air conditioning, or automatic dishwashers (Bell, 1963).

The question remains whether consumer who exhibit

consistent innovative behavior in relation to "low-level product newness" (e.g., new brand of razor blade, new detergent, and the like) will also exhibit similar innovativeness for higher level innovations like the electric car, and phonovision shopping (Kegerreis et al., 1970). Donnelly and Etzel's (1973) study of the relationship between the early trial and product newness suggests that the degree of newness of a product is a major factor in determining who tries it. Similarly, Kegerreis et al. (1970), in their study of the adoption and diffusion of the automotive diagnostic center (as a functional innovation), asked the adopters of this innovation to respond to questions about their behavior in relation to lower-level newness. Their answers led to the conclusion that there must be different sets of innovators and/or different influence upon innovators at various levels of product impact (Kegerreis et al., 1970)

In regard to product characteristics, Ostlund (1973, 1974) stated that product characteristics are vital in the prediction of innovativeness. Rogers and Shoemaker (1971) have identified five product characteristics that seem to influence consumers' acceptance of new products: (1) relative advantage - the degree to which the innovation is perceived as superior to existing substitutes, (2) compatibility - the degree to which a new product is perceived as consistent with the existing values, past

experience, and needs of potential adopters. An innovation can be compatible or incompatible with sociocultural values and beliefs, with previously introduced ideas, or with client needs for innovation, (3) complexity - the degree to which an innovation is perceived as relatively difficult to understand and use, (4) trialability - the degree to which an innovation may be experimented with on a limited basis, and (5) observability - the degree to which the results of an innovation are visible to others (Rogers and Shoemaker, 1971).

Rogers (1983) cites research evidence which shows a significant relationship between these attributes of innovations and their rate of adoption. The strongest support was generally found for the attribute dimensions of relative advantage, compatibility, and complexity, with somewhat weaker support for the existence of trialability and observability. Also, Ostlund (1974) found that perceived innovation attributes are very effective predictors of innovativeness. Kegerreis et al. (1970) select two innovation attributes, relative advantage and fulfillment of felt needs, to investigate in their study of the automotive diagnostic center, referred to earlier. The authors defined relative advantage as a composite of the most frequently stated reasons for trying the new service such the innovation to be more complete, more scientific or accurate, and better than regular mechanics. The results showed that these

responses accounted for 76 percent of the group. In the fulfillment of need category, a similarly practical set of answers was obtained. Performance problems, safety concern, completeness of the diagnosis, and decision inputs - these four rational considerations comprised 81 percent of the reasons give (Kegerreis et al., 1970).

In summary, as Kegerreis et al. (1970) concluded, "newness is not enough. The first adopters of innovations. . . simply do not respond to newness alone. These innovators are eager to learn about new products and services that may help to resolve some of their dissatisfaction. In order to be successful, marketers of innovations must show that their new product has a clear advantage over existing consumer choices, and that it fulfills an identifiable need" (Kegerreis et al., 1970, p. 686).

Time Perception, Innovativeness,
and Situational Constraint

The general hypothesis of this study is that time perception has significant impact on innovativeness. More specifically, it shall be predicted that (1) present-oriented consumers would be intrigued by innovations which are of current consumption and benefits, i.e., of immediate gratification; (2) future-oriented consumers would favor innovations which are of future

benefits and utility, i.e., innovations of delayed gratification, and (3) past-oriented consumers would be resistance to innovations in general, particularly true innovations (i.e., discontinuous innovations or even dynamically continuous innovations). However, they might adopt "me-too" products (i.e., continuous innovations) which are similar to the old products they favor.

However, if situational constraints exist, the above predicted influence of time perception on innovative behavior might not work, as behavior, as it was indicated in Chapter I, has been found to be a function of the interaction of person and situation (Bowers, 1973; Monson, Hesley, and Chernick, 1982).

In the following section, the relationship of time perception to innovativeness will be discussed, and the impact of situational constraints on this relationship is to be presented.

The Interaction of Situation, Time Perception, and Innovativeness

"The proviso that 'it depends upon situation' is a general acknowledgement of the expected consonance of behavior and the settings in which it takes place. The consumer making this qualification may expect both purchase and consumption situation to exert an influence on his decision making" (Belck, 1974). The direct

influence of consumption situations on consumer behavior are increasingly being examined in behavioral research since individual consumer and choice object characteristics fail to consistently explain choice behavior (Bearden and Woodside, 1978). Fennell (1978) points out that the conditions that lead consumers to want specific product benefits are found in aspects of both their personality and their life situation. She adds: "in recent years, the psychological literature increasingly reports dissatisfaction with the ability of personal variables such as traits and generally stated attitudes to predict behavior, and it stresses the dual influence on behavior of person and environment factors" (Fennell, 1978, p. 39).

Consequently, the study of time perception, as a personality trait, to predict innovativeness entails the consideration of situational effects.

On the basis of his study of generalized innovativeness, Summers (1971) suggests.

. . . innovativeness may be a function of situational variables. . . and behavioral consideration. It may be that situational factors are unique to specific products and product categories and serve to constrain the individual's innovativeness to particular areas, while his behavioral (sociological, psychological, etc.) make-up influences his basic tendency to innovate (p. 316).

It is obvious, then, from Summers' conclusion that innovativeness is a function of two broad categories of

variables: sociological, psychological and other behavioral consideration; and situational factors. Consequently, an individual's time perception, as a psychological dimension of his make-up, might predict his innovativeness in general. However, situational effects may operate to constrain the individual's innovativeness to particular areas.

Trommsdorff and Lamm (1975) explain how future orientation, behavior, and situation interact: "Decision making and behavior partly depend on a person's belief in his own abilities to master the future or, alternatively, his attribution of outcomes to other forces, and on his adequate cognitive structuring of present and future. Present decisions are usually made on the basis of future outcome. On the other hand, the present situation and past experience determine the setting of goals and the evaluation of possible future events. The kind of future events which people expect to occur, people's judgment of these events, and the people's choice can often be extrapolated from the present situation" Trommsdorff and Lamm, 1975, pp. 348-349).

Thus, an individual's innovative behavior, as a part of his behavior, and the adoption of innovations, as a decision making process, are functions of one's time orientation and situational factors.

As to the direction of the influence of time

orientation on innovativeness, McGuire (1977) suggests:

. . . one's aspirations and actions as a consumer are greatly affected by the extent to which one is bound by the past and by one's view of the future. Such psychological realities as tolerance for delay of gratification, with its attendant willingness to invest in the future rather than in present consumption, are greatly influenced by the extent of one's time-binding and one's view regarding the future. Again, whether one is satisfied with one's old, accustomed foods, housing, cars, furniture, etc., or whether one seeks something new depends on one's view of whether the old days were better or worse than the present and on one's perception of what the future hold (p. 321).

This quotation by McGuire (1977) suggests the following:

1. Future orientation influences consumer's behavior (including innovative behavior) differently from past orientation.
2. The willingness to delay gratification, and to invest in the future rather than in present consumption is a function of future orientation.
3. Seeking out novel things (i.e., innovations) is also a function of future orientation.
4. Satisfaction with one's old is a consequence of past orientation.

Hypotheses

The above argument by McGuire (1977) that ". . . whether one is satisfied with one's old. . . or whether one seeks something new depends on one's view of whether the old days were better or worse than the present and on

one's perception of what the future holds" (p. 321) implies that time orientation influences the consumer's innovativeness, i.e., his willingness to buy new products, depending upon whether the consumer is past-oriented or future-oriented. Settle and Alreck (1977) found that past-oriented persons see past-product quality as superior to today-product quality; whereas future-oriented persons agreed that product quality improves over time. Also, Settle, Alreck, and Glasheen (1977), in their study of whether time orientation is indicative of a particular life style pattern, as revealed by the activities, interests, and opinions, found that future orientation is positively and significantly correlated with innovative behavior as measured by AIO. More specifically, future-oriented persons were found to be innovative. Thus, it is hypothesized that:

H1: Future-oriented consumers are more likely to be innovative in comparison with past-oriented consumers.

As to how the innovativeness of past-, present-, and future-oriented consumers is different, Juster (1978) suggests that "virtually everything people do, and virtually every product or service they buy, can be characterized as an investment in some future benefit" (p. 6). It is believed that the investment of time "will tend to be greater if people are more far sighted (future-oriented) in terms of their relative evaluation of

present vs. future benefits. . . people who place a great deal of value on the present and little value on the future are likely to invest less than people who weight the future more heavily" (Juster, 1978, p. 10). An implied suggestion here is that time may will be perceived and valued differently depending on whether the activity is felt to be one of only current consumption, or rather one of investment in some future goal (Hawes, 1979). More specifically, future oriented consumers would be prone to innovations which are of future benefits, whereas present oriented consumers would favor innovations which are of current consumption. In this regard, Trommsdorff and Lamm (1975) point out that: "An important behavioral aspect of FO [future orientation] is a person's choice between immediately rewarding vs. later rewarding events. A person's ability to postpone immediate smaller rewards in exchange for later larger rewards may be predicted from the cognitive and evaluative character of his FO" (p. 349). Hence, it is hypothesized that:

H₂: Future-oriented consumers are more likely than past-, and present-, oriented consumers to be willing to delay gratification over substantial periods of time.

H₃: Future-oriented consumers are more likely than present-oriented consumers to be willing to buy innovations which are of future benefits and delayed gratification.

There is some evidence which provides support to the above prediction. Rabin (1978) found that future

orientation is positively and significantly related to delay gratification; and negatively related to impulsivity. Also, Settle, Alreck, and Belch (1981) found that measures of future orientation and willingness to delay gratification were significantly correlated.

In addition, the findings of Dalrymple et al.'s (1971) study of the consumption behavior across ethnic groups are supportive. The results presented in Table 2 (p. 59), in their study, on the innovativeness of three ethnic groups: Japanese, Black, and White, with regard to three product categories: appliances, food, and clothing indicate that (1) white consumers are more innovative than blacks concerning appliances, and (2) blacks are more innovative than whites in regard to clothing.

Taking these results in consideration along with the evidence that blacks are most likely to be present oriented and whites are most likely to be future oriented (Lager and Zwerling, 1980; Nowotny, 1975), it can be concluded that time orientation influences the type of innovation preferred (current-consumption vs. future benefit-innovations). That is, blacks (who are present-oriented) are more innovative in regard to new products which are of immediate gratification such as clothing, whereas white consumers (who are most likely to be future oriented) are found to be more innovative concerning appliance innovations which are relatively of

long-term benefits.

Based on the above discussion, the following hypothesis is developed:

H₄: Present-oriented consumers are more likely than future oriented consumers to favor innovations which are of current consumption and benefits.

McGuire (1975) argues, as indicated earlier, that one's relative evaluation of the past, present, and future effects whether one is satisfied with the old and familiar or seeks newness and novelty. Settle and Alreck (1977) found that past-oriented people see past-product quality as superior to today-product quality. Based on this rationale, it is hypothesized that:

H₅: Past-oriented consumers are more likely than both present-, and future-oriented consumers to buy "me-too" products which are similar to the old products they favor.

This last hypothesis also reflects Midgley and Dowling's (1978) assumption that "all members of society possess a greater or lesser degree of innovativeness" (p. 235), and Hirschman's (1980) argument that "every consumer is, to some extent, an innovator" (p. 283). Thus, past-oriented consumers can be considered, to some extent, innovators, whose innovativeness might be reflected in buying "me-too" products (i.e., continuous innovations). Buying "me-too" products is, more or less, consistent with their positive attitudes toward old products, and with their negative attitudes toward

discontinuous innovations.

The Consideration of Situational Constraints

The above hypotheses have assumed that everything is equal. However, typically there are situational constraints which might strongly affect the relationship between time perception and innovativeness. Lavidge (1966) argues that many buyers' behaviors may be enacted only under specific conditions and necessitate situational investigations of intra-individual variability. Also, Engel, Kollat, and Blackwell (1969) urged that both individual and situational factors must be considered in order to explain consumer choices. However, the primary obstacle has been the absence of an adequate conception of the variables which comprise a situation (Belk, 1975).

It is the purpose of the following discussion is to conceptualize a situation and to define the appropriate situations that shall be considered in this study.

Belk (1974) has defined a consumer situation as "comprising all those factors particular to a time and place of observation which do not follow from a knowledge of personal (intra-individual) and stimulus (choice alternative) attributes and which have a demonstrable and systematic effect on current behavior" (p. 158). The greatest problem in operationalizing this conceptualization, Belk (1975) points out, lies

in defining "all those factors."

Belk (1975) points out that several attempts have been made to develop comprehensive taxonomies of situational characteristics. Having reviewed those taxonomies, Belk (1975) concluded that they fall short of satisfying the above conceptualization of a situation. Consequently, by selectively combining features suggested in the various taxonomies, Belk (1975) offers a skeletal notion of what is meant by "all those factors." The following five groups of situational characteristics represent the general features from these taxonomies which are consistent with the above definition of situation by Belk (1975).

1. Physical surroundings are the most readily apparent features of a situation. These features include geographical and situational location, decor, sounds, aromas, lighting, weather, and visible configuration of merchandise or other material surrounding the stimulus object.

2. Social surroundings provide additional depth to a description of a situation. Other persons present, their characteristics, their apparent roles, and interpersonal interactions occurring are potentially relevant examples.

3. Temporal perspective is a dimension of situations which may be specified in units ranging from time of day to season of the year. Time may also be measured relative to some past or future event for the situational participant. This allows conceptions such as time since last purchase, time since or until meals or payday, and time constraints imposed by prior or standing commitments.

4. Task definition features of a situation include an intent or requirement to select, shop for, or obtain information about a general or

specific purchase. In addition, task may reflect different buyers and user roles anticipated by the individual. For instance, a person shopping for a small appliance as a wedding gift for a friend is in a different situation than he would be in shopping for a small appliance for personal use.

5. Antecedent states make up a final group of features which characterize a situation. These are momentary moods (such as acute anxiety, pleasantness, hostility, and excitation) or momentary conditions (such as cash on hand, fatigue and illness) rather than chronic individual traits. These conditions are further stipulated to be immediately antecedent to the current situation in order to distinguish states which the individual brings to the situation from states of the individual which result from the situation (Belk, 1975, p. 159).

Kakkar and Lutz (1981) point out that the key drawback to using Belk's (1975) set of descriptors, just discussed above, is the virtually infinite detail in which situations would have to be defined in order to be compared with one another. Each purchase/consumption situation, Kakkar and Lutz add, could be detailed to the point where the number of variables would be massive enough to make reliable measurement and meaningful analysis impossible.

In direct response to the morass of detail involved in complete "objective" situational taxonomies, Mehrabian and Russell (1974) developed a situational classification which is psychologically based. The fundamental proposition of Mehrabian and Russell's theory is that the impact of the situation on behavior is mediated by emotional responses, so that any set of conditions

initially generates an emotional (affective, connotative, feeling) reaction, which in turn leads to a behavioral response. Further, the universe of all possible emotional responses may be represented by one or a combination of three basic dimensions: pleasure, arousal, and dominance. Mehrabian and Russell (1974) point out that pleasure as an emotional state is distinguished from "preference, liking, positive reinforcement, or approach-avoidance. . . since the latter responses are also determined by the arousing quality of a stimulus" (p. 18). It is a composite of feelings such as happiness, contentment, satisfaction, etc. Arousal is an activity orientation and is a measure of how stimulating the situation is to the subject. Dominance is the degree to which the subject feels in control, or controlled by, the situation (Mehrabian and Russell, 1974).

According to Mehrabian and Russell, not only can emotional response to any situation be represented by these three factors, but these same factors can also be used to categorize the situations which generate those emotional states. In other words, stimuli can be described according to the responses they generate. Also, they contend that any situation can be characterized by its position on those three dimensions (Mehrabian and Russell, 1974).

Lutz and Kakkar (1974) adopt the viewpoint that the

"situation" relevant for the understanding of consumer behavior is the psychological situation, which may be defined as "an individual's internal responses to, or interpretations of, all factors particular to a time and place of observation which are not stable intra-individual characteristics or stable environmental, and which have a demonstrable and systematic effect on the individual's psychological processes and/or his overt behavior" (Lutz and Kakkar, 1974, p. 441).

Lutz and Kakkar (1974) point out that their definition is similar in many respects to Belk's definition, discussed earlier, but differs in the focus on subjective interpretation of the situation. Additionally, psychological processes preceding behavior are posited as a locus of situational effects, rather than overt behavioral outcomes (Lutz and Kakkar, 1974).

Consequently, this study is not dealing with objective situation such as Belk's (1974) taxonomy, rather, the focus shall be on the subjective dimensions of situational constraints such as Mehrabian's and Russell's (1974) classification.

Monson et al. (1982), in their study on specifying when personality traits can and can not predict behavior, found that one of the most promising means of specifying when traits can and can not predict behavior is by the assessment of the strength of the situational pressures

present in the setting in which the behavior is measured.

In this context, the "arousal" and "dominance" dimensions of Mehrabian and Russell's (1974) taxonomy of situations are relevant. That is, how stimulating the situation is to the subject (i.e., arousal), and the extent to which he feels or does not feel unrestricted or free to act in a variety of ways (i.e., dominance-submissiveness), would represent real situational constraint which might influence the above hypothesized relationships of time orientation to innovativeness.

Mehrabian and Russell (1974) point out that "formal social situations constrain behavior more than informal ones. . . For instance, a person has less freedom of choice (is less dominant) in the presence of others of higher status. . . This is consistent with the general idea that there is an inverse relationship between a dominant feeling and the potency of the environment" (p. 20).

Personality traits, as indicated in Chapter I, may be useful in predicting behavior when situational constraints are weak but not when they are strong (Mischel, 1977). Monson et al.'s (1982) study, referred to above, provides support to Mischel's suggestion. Monson et al. found that there are some settings where personality traits can be used to predict behavior and

other settings where personality traits can not be used to predict behavior. Traits are most likely to be useful in those settings where situational pressures are weak and where there are considerable individual differences in the behavior exhibited. However, traits, monson et al. point out, are least likely to be useful in those settings where situational pressures are strong and where there are few individual differences in the behavior exhibited (Monson et al., 1982).

More specifically, Monson et al. (1982), in their study referred to above, manipulated three experimental conditions: forced extraversion, forced introversion, or neutral. They tested the hypothesis that extraverts and introverts differ more in their perceived talkativeness in the neutral condition than in the forced-extraversion and the forced-introversion conditions. The data supported this hypothesis. Furthermore, the data showed that extraverts and introverts did not differ significantly in their perceived talkativeness in the forced-extraversion and the forced-introversion conditions (Monson et al., 1982).

Consequently, it might be expected, in the proposed study, that future-, present-, and past-oriented persons would not differ in their innovativeness, if strong situational constraints, e.g., group pressure, exist. In other words, the above hypothesized relationships of time

orientation to innovativeness have assumed a freedom of choice under neutral conditions and within an environment which is free from situational constraints. For example, if a liked friend (i.e., associative reference group) tells an individual that a certain innovation is good or bad based on his first hand experience with that innovation, this would influence the individual's original tendency to innovate. Similarly, it might be expected that an individual's tendency to innovate would be influenced under group pressure conditions, regardless his time orientation.

In this context, Venkatesan (1971) points out that "Generally, laboratory studies of social influence demonstrated that individuals are highly susceptible to group pressure. A majority of the individuals conform, to group norm" (p. 214). Similarly, Howard (1963) notes:

Other people seem to be an important influence on the individual perception. There are two hypotheses in this connection. First, a number of experiments suggest that, in the presence of a sufficient amount of group pressure, it is possible to influence what the individual believes he perceives. The second hypothesis is that, in the absence of objective standards or accepted authority, an individual will turn to other people for judgments and evaluations. To whom he returns depends upon the circumstances (p. 136).

In addition, Venkatesan (1971) states that "consumer decision making takes place in an environment where conformity is a major force," he adds "many buying actions come from a desire to identify with a membership or

reference group. The influence exerted by given groups, such as neighborhood groups, bridge clubs, on its members is informal and subtle. Moreover, group norms establish a range of tolerable behavior or a frame of reference" (Venkatesan, 1971, p. 214).

Venkatesan (1971), in an experimental setting, tested the hypotheses of conformity to group norms. The data showed that group pressure was effective and that individuals tended to conform to the group norm. This implies that peer groups, friends, and acquaintances may be a major source of influence in the buying process (Venkatesan, 1971).

In addition, Robertson (1973) notes:

innovative behavior is an activity engaged in by individuals. Within the confines of a social system, such as a neighborhood, individuals meet, see, and talk with one another - interaction occurs. It such interaction among a set of people is on a continuing basis, sentiment may exist within the group in terms of differential liking among group members and the formation of group ideology and norms governing expected activity pattern (p. 342).

Based on the above discussion, two conclusions arise: (1) it might be hypothesized that, in general, past-, present-, and future-oriented persons will not differ in their innovative behavior when situational constraints prevent the dominant behavior, and (2) the most relevant situational constraint, within the context of innovativeness, is group pressure or group conformity.

Stafford (1971) stated that "group interaction is

seen as a major determinant in attitude changes, as well as for other phenomena (satisfaction of social needs) of importance to the individual" (p. 221).

Stafford (1971) points out that the most common definition of "groups" revolves around the term "reference groups" which can include groups to which a person actually belongs, to which he aspires to belong, or dissociative groups to which he aspires not to belong. "Most social psychologists consider reference groups as a person's major source of values, norms, and perspectives" (Stafford, 1971, p. 221).

There is ample evidence which documents the impact of reference group influence on consumer conformity (see for example, Stafford, 1971; Venkatsen, 1971; Witt, 1969; and Witt and Bruce, 1970).

For the purpose of this study, refernce groups are to be classified, in terms of their influence, into associative groups (to which a person actually belongs or he aspires to belong) and dissociative groups (to which a person aspires not to belong); with the effect that the impact of associative groups on consumer conformity is positive, whereas the impact of dissociative groups on consumer conformity is negative. Consequently, it is hypothesized that:

H₆: Past-, present-, and future-oriented consumers are less likely to differ in their innovative behavior in the presence of recommendations from

associative groups.

H₇: Past-, present-, and future-oriented consumers are more likely to differ in their innovative behavior, as hypothesized previously, in the presence of recommendations from dissociative groups.

CHAPTER III

METHODOLOGY

Chapter II presented the experimental hypotheses after the theoretical research hypothesis had been established. That research hypothesis, restated, predicts that time orientation may determine innovativeness. More specifically, future-oriented persons would be willing to buy innovations which are of delayed gratification; present-oriented persons are prone to innovations which are of current consumption and gratification; and past-oriented persons are less likely to be willing to buy innovations in general. However, as the experimental hypothesis predicts, if strong situational constraints, e.g., group pressure, existed, time orientation, as a personality trait, can not predict innovative behavior, and the hypothesized relationship between time orientation and innovativeness might be disappeared.

The present chapter will present the methodology that to be employed to test the hypotheses. The following topics in relation to the experiment are described: (1) variables measurement, (2) experimental design, (3) selection and description of respondent, (4) product selection, (5) experiment procedure, (6) questionnaire, (7) pilot study, and (8) method of analysis.

Variables Measurement

The following are operational definitions of the variables presented in the hypotheses in Chapter II. The operational definitions begin with the presentation of the measurement of the independent variable, which is followed by a discussion regarding the dependent variable's measurement. Finally, the moderating variable measurement will be presented. All measures in this study will be paper-and-pencil.

The Independent Variable

Time orientation, i.e., past, present, and future orientations, is the independent variable of this study. There are several measures available to index time orientation. The Circles Test, the Lines Test (Cottle, 1976), and the Inventory of Temporal Experiences (Yonge, 1973) are examples. The Circles Test and the Lines Test (Cottle, 1976) are projective techniques for indexing time orientation. Kerlinger (1973) points out that projective measures are probably the most controversial of psychological measurement instruments. He recommends that "a projective instrument should not be used if you have a more objective instrument that adequately measures the same variable. There is no sense in taking the risk if you do not have to. Moreover, it is best to avoid complex projective techniques. . . that require highly specialized

training and a great deal of perhaps questionable interpretation" (Kerlinger, 1973, p. 521).

The inventory of Temporal Experience (Yonge, 1973) is concerned basically with the relationship between temporal experiences and some aspects of personality such as creativity, originality, and intellectual interests.

Thus, to avoid the problems of projective techniques (the Circles Test and the Lines Test), and because the aspects of personality measured by the Inventory Temporal Experience, in relation to time orientation, are not the concern of this study, so, the F.A.S.T. Time Orientation Test developed by Settle and Alreck (1977, 1978) was selected to measure respondents' time orientation. It measures four temporic dimensions of consumers: Focus, Activity, Structure, and Tenacity.

Settle, Belch, and Alreck (1981b) explain these four dimensions as follow:

The focus scale measures the tendency of the individual consistently to direct consciousness toward a particular place on the time spectrum from past to future. The past oriented person tends to recollect and 'relieve' in memory earlier experiences and events. Future-oriented people project into the future in fantasy and imagination. Present-oriented individuals dwell in the moment at hand, becoming immersed in the 'now'.

The activity scale provides a measure of the perceived supply of time, relative to the event of daily life. Very active people find time passes too quickly. . . . The most passive persons tends to experience boredom. . . . those in the mid-range of this scale find there is sufficient time for the activities they need.

The structure scale indicates the form in which the individual perceives time. The highly structured person sees time as a series of discrete, heterogeneous segments. . . . The very spontaneous individual sees time as an homogeneous, flowing substance and pursues activities on view events as they occur, with little regard for schedules and punctuality. Those between these extremes view some time as structured and some as unstructured, in various proportions.

The tenacity scale indicates the willingness or reluctance of the individual to delay gratification over time. Tenacious people are willing to undertake large tasks, provided the extrinsic rewards are commensurate, even though they have to wait a substantial amount of time to receive them. The more immediate individual seeks continuous, intrinsic rewards or extrinsic payoffs that are relatively proximate in time to the exertion of effort. Between these extremes are those who tolerate some delay in receipt of rewards or prefer to undertake some of each time of task (p. 2)

The selection of F.A.S.T Time Orientation Test is based on the following:

1. In addition to measuring whether a person is past-, present-, or future-oriented, it measures tenacity, i.e., willingness to delay gratification over time. The second hypothesis is on the relation between time orientation, i.e., past, present, and future orientations, and tenacity. Also, tenacity is relevant to the hypothesized relationship between time orientation and innovativeness in the third and fourth hypotheses. In this contest, Settle, Alreck, and Belch (1981) reported that the dimension of focus (toward the future) proved to have a substantial

correlation with tenacity dimension, i.e., willingness to delay gratification.

2. In regard to F.A.S.T. test performance, Settle et al. (1977) point out that "Reliability Coefficients for the scales range in the 70's and 80's, while item redundancy and correlations with scale scores are well within acceptable ranges. The scales were validated against spouse observations of time-relevant behavior, job satisfaction with time-related characteristics, and several standardized psychological measures of relevant constructs" (p. 2). And they concluded that "the test appeared to be an appropriate measure of consumer time orientations" (p. 2). In addition, Settle et al. (1981a), in their study to standardize and cross-validate the F.A.S.T. Time Orientation test, reported, "The test standardization statistics indicate satisfactory performance of test items and scales. The conventional indices of test performance were consistently within acceptable ranges for trait specific psychological tests of this nature, and the standardization sample consisted of the general public, rather than special populations, as is all too often the case. The sample size was exceptionally large, compared to that usually obtainable for standardization purposes. Tentative external validity checks included in the initial study provided promise

for additional support for cross-validation by the formal validity study using a separate sample from the same population" (p. 18). They added, ". . . It appears, then, that the F.A.S.T. test performance has been well established" (Settle et al., 1981a, p. 18).

3. Time orientation is emphasized in this study as a predisposition incorporated in the psychological makeup of the individual as a durable personality trait. This is the basis on which F.A.S.T. test has been established (Settle et al., 1977, 1978).

F.A.S.T. Time Orientation test of 64 items with sixteen on each scale. The items are statements (see Appendix A, pp. 174-177.) Respondents indicate the degree to which the statement is descriptive of them by selecting a number from a five-point scale with extremes labeled "Exactly like me" and "Not at all like me." However, two dimensions of the F.A.S.T. test, i.e., focus and tenacity, concern this study.

The Dependent Variable

Innovativeness or willingness to buy new products is the dependent variable of this study. By and large, in the marketing literature researchers have used two main techniques to measure innovativeness, either a variant of the time of adoption method, or what might be termed the "ownership of new products" or "cross-sectional" method

(Midgley and Dowling, 1978). The first technique, Midgley and Dowling (1978) point out, usually involves defining as innovators those individuals who purchase in the First X weeks, months, etc., after product launch or those individuals who constitute the first X percent of a given market to purchase. The second technique basically involves determining how many of a prespecified list of new products a particular individual has purchased at the time of the survey. Some examples of those using the first techniques are Hains (1966), Donnelly and Ivancevich (1974), Feldman and Armstrong (1975), and Robertson (1968). Those using the cross-sectional method include Summers (1971, 1972), Darden and Reynolds (1974) and Baumgarten (1975).

In this study, innovativeness was measured at two levels: innate innovativeness and actualized innovativeness. Innate innovativeness was defined as a personality trait, i.e., a predisposition to act in a certain way concerning the adoption of innovations. It was measured by the "Open Processing Scale," discussed in details below, (Leavitt and Walton, 1974). Actualized innovativeness, on the other hand, was defined in terms of behavioral intentions to buy products that vary in innovativeness. A five-point scale, with extremes labeled "Definitely would buy" and "Definitely would not buy," was developed to measure actualized innovativeness (see

Appendix A, p. 173).

The "Open Processing Scale," used to measure innate innovativeness was developed by Leavitt and Walton (1974). The authors have used a cognitive approach in the construction of their scale. Leavitt and Walton (1984) point out that:

A cognitive style that characteristically leads to using new cues, more cues, or unfamiliar combinations of cues is one way in which innovative consumers may differ. We hypothesize the presence of such a cognitive style variable and call it open processing (p. 3).

Leavitt and Walton (1984) describes open processing as follows:

The trait of open processing is intended to capture the important aspects of the intuitive response to mass communication which entails the ability to use a broad range of cues in new patterns to make inferences about the world.

(1) The breadth of utilization refers to an experimental reordering of information. Not only are more cues used but they are used in new ways suggested by such descriptions as re-centering or restructuring. The individual high on the trait of open processing rearranging more cues in more patterns in the process of making inferences.

(2) This takes place in situations where a new approach is required, where the usual cues have no routine, learned relation to the desired outcome. Thus open processing is particularly relevant to new ideas and new products (p. 4).

Within this framework, Leavitt and Walton (1974) define a trait of "innovativeness" as follows:

A person high on a trait of innovativeness is open to new experiences and often goes out of his way to experience different and novel stimuli particularly of a meaningful sort (not just thrill-seeking). Most important, he tends to make constructive use of information received whether sought or accidentally

encountered. He has a low threshold for recognizing the potential application of ideas he gets from others but does not apply suggestions mechanically. Rather, he has the ability to transform information for his own use. His involvement in his own enterprises and acts is such that he looks for ways to change and improve them. Above all, he is responsive to communication in a selective, constructive way when the message has a valid relevance to his activities. He is objectively in his evaluation although occasionally naive (p. 549).

The Open Processing Scale consists of 48 items; 24 items are positive, and 24 are reversed items to control acquiescence. These reversed items were constructed by reversing the meaning of the 24 positive items in a sensible way. Some of these items are literal reversals of the original items, while others are more broadly contrasted based on the concept of open processing. The main reason for using positive items is one of consumer acceptance (Leavitt and Walton, (1984)).

The 48 items of the scale are included in two forms; each form includes 24 items. To develop parallel items, the 24 positive items were sorted into two groups of twelve items that were as equal as possible with respect to the Differential Reliability Index (DRI), as a measure of item homogeneity and as a control for social desirability, and item content. Both groups included high and low DRI items and product and non-product related items. The content-reversed items are assigned to the forms on the basis of content matching. This procedure, then resulted in two parallel forms (Form A and Form B)

with 12 positive and 12 content-reversed items each (See Appendix A. pp. 178-181).

In regard to the reliability of "The Open Processing Scale," the DRI was calculated as a measure of item homogeneity and as a control for social desirability response bias. The median DRI of the scale items is .37 with a range of .28 (.29 to .57) (Leavitt and Walton, ND).

Concerning the validity of the scale, Leavitt and Walton (1984) reported that both construct validity and concurrent validity have been demonstrated. Two methods were used to check on the construct validity of the scale: factor analysis and the convergence between the scale and another scale (i.e., convergent validity).

The method of principal factors was used with a varimax orthogonal rotation. A plot of eigenvalues showed an elbow between three and four factors so three factors were used in the final solution, and open processing loads strongly on this factor. The scales that load highly on this factor include competence, advanced opinions, leadership, good spirits, cosmopolitanism, social self esteem, and happiness. Thus, this factor is consistent with the conception of the open processor, i.e., the innovator (Leavitt and Walton, (1984).

Open processing did not load on the second or third factors. The second factor was labeled person orientation

since the scales that load highly on this factor have many items which refer to other people rather than projects or tasks. The third factor was labeled anxiety because this appears to be a general factor that characterizes many psychological scales (Leavitt and Walton, (1984).

In regard to convergent validity, a study was done by Leavitt and Walton (1983) to check on the convergence of the Open Processing Scale and Kirton's (1976) scale of organizational innovative behavior. Kirton (1976) has established the validity of organizational innovative behavior as an individual cognitive style. The correlation between the two scales was .45 ($p. < .05$) which is evidence of adequate convergence in the measures of these two similar constructs (Leavitt and Walton, 1983).

Concerning concurrent validity, i.e., the ability of open processing to predict trial of new products. Leavitt and Walton (ND) tested the predictive validity by including a check list of current products that were considered new at the time of administering the scale. Forty such products were suggested. Each respondent was asked to check whether the product had been "tried", "seen but not tried" or "never seen." An innovation score was computed by allowing two points for trial, one point for "seen but never tried" and zero for "never seen." The two forms were then used to predict the total innovation

score. The correlation of the total score with Forms A and B was .36 ($p < .01$) and .39 ($p < .01$), respectively (Leavitt and Walton, (1984). Concurrent validity, Leavitt and Walton (1984) point out, is further demonstrated by several studies that have used the open processing scale to investigate various types of consumer adoption behaviors.

The Moderating Variable

A situational factor, i.e., group pressure, is expected to mediate the relationship between time orientation and innovativeness, as discussed in Chapter II. Group pressure is operationalized in terms of reference group influence. A distinction has been made between two types of reference groups: associative reference groups and dissociative reference groups.

Associative reference group is conceptualized as a group whose beliefs, values, and norms are perceived by a person as compatible and congruent with his/her beliefs, values, and norms. So, it is expected that the individual's behavior would be influenced by this group. However, dissociative reference group is defined, in this study, as a group whose beliefs, values, and norms are perceived by an individual as in conflict with his/her beliefs, values, and norms; so, he would be negatively influenced by this group.

Although referents that a person might use in evaluating his/her own general or specific attitudes or behavior vary from an individual to a small group, with which he or she interacts or does not interact on a direct basis (Schiffman and Kanuk, 1983), the concept of reference groups is narrowly defined, for the purpose of this study, to include an individual with whom the person interacts on a direct basis. Thus, associative reference group is defined as an individual who favorable influences the behavior of another person, and that they interact on a direct basis. In contrast, dissociative reference group is defined as an individual who has face-to-face contact with another person, and their beliefs, values, and norms, however, are in conflict.

The impact of both associative and dissociative reference groups was measured by posing a scenario in which the subject was asked to imagine him-or herself as recommended by a liked person (i.e., associative reference group) or by a disliked one (i.e., dissociative reference group) to buy a certain type of telephone or television which is different from what is in his mind. The respondent, then, was asked to respond on a 5-point buying intention scale, ranging from "Definitely I would buy" to "Definitely I would not buy", indicating his/her willingness to buy each type of telephone and television (See scenarios in pp. 92-95, and Appendices B and C).

Experimental Design

The primary purpose of this research is to examine the impact of an individual's time orientation on his innovative behavior; and how this impact would be if moderated by the presence of situational constraints as group pressure.

To study the second research question, the "posttest-only control group" experimental design (Campbell and Stanley, 1963) was selected.

The selection of this design was based on the following:

1. It has the best built-in theoretical control of any design. . . . The control group gives the comparability required by science. This experimental group-control design using equated experimental and control groups (though randomization) provides such comparison in an efficient manner, which makes it an intellectual achievement of the first order (Kerlinger, 1973, p. 331).
2. While the pretest is a concept deeply embedded in the thinking of research workers in education and psychology, it is not actually essential to true experimental designs. For psychological reasons it is difficult to give up 'knowing for sure' that the experimental and control groups were "equal" before the differential experimental treatment. Nonetheless, the most adequate all-purpose assurance of lack of initial biases between groups is randomization. Within the limits of confidence stated by the tests of significance, randomization can suffice without the pretest (Campbell and Stanley, 1963 , p. 25).

Selection and Description of Respondents

A non-probability convenience sample was the method used to select respondents. However, all subjects were randomly assigned to one of three groups--two experimental

groups and one control group. A total sample of 594 undergraduate students was obtained; all of them are marketing majors at Baruch College, CUNY.

The reason for selecting undergraduate students rather than graduate students is that there is a positive correlation between time orientation and education levels. That is, the higher the level of education a person obtains, the more likely he is future oriented. Trommsdorff and Lamm (1975), for instance, found a longer time extension (future orientation) in better educated persons than in less educated persons. Thus, selecting undergraduate students would allow opportunity to get subjects with different time orientations. The following table shows the distribution of the sample among the experimental and control groups.

TABLE 1
THE EXPERIMENTAL DESIGN

| GROUP | EXPERIMENTAL TREATMENT | N |
|----------------------|------------------------------|-----|
| Experimental Group 1 | Associative reference group | 182 |
| Experimental Group 2 | Dissociative Reference group | 166 |
| Control Group | | 246 |

The total sample is 594 respondents.

Product Selection

Two product categories were employed in this study: telephones and televisions. The rationale for this selection was based on the following: (1) the selection of telephones and televisions simplifies the experimental design since it is assumed that most of the respondents are using both of them; (2) their prices are assumed to be within the range that the students are able and willing to pay; and (3) they are experiencing technological changes both in their styles and capabilities. Thus, telephones and televisions, as such, exemplify the different types of innovations that are of concern to this study. That is, standard telephones and standard televisions exemplify continuous innovations of "me-too" products; cordless telephones represent dynamically continuous innovations which are of immediate gratification; and phonevision telephones and direct-to-home satellite televisions exemplify discontinuous innovations which are of delayed gratification.

The Experiment Procedure

The subjects were assigned to experimental groups and control groups randomly. This was accomplished by mixing up all questionnaires, i.e., the three different versions of the questionnaires, then they were distributed randomly. The subjects were administered the questionnaires during

their regular class time. Typically, it took the student about 25 minutes to complete the questionnaire.

Questionnaire

The questionnaire contains four sections: (1) the purchase situation with and without the experimental treatment, i.e., reference group influence; (2) the F.A.S.T. test to measure time orientations; (3) The Open Processing Scale to measure innovativeness; and (4) the usual demographics (See Appendices A, B, and C).

Since there are three groups two experimental groups and one control group, there were three different versions of the questionnaire; one for each group. However, the three questionnaires were similar except for the first section concerning the purchase situation and the experimental treatment. More specifically, one of the experimental groups will be administered a questionnaire which contains the F.A.S.T. Time Orientation Test, the measure of innovativeness, the purchase situation assuming the presence of associative reference group influence (the first experimental treatment).

The other experimental group also will be administered the F.A.S.T. test, the measure of innovativeness; but the purchase situation will be operationalized in terms of the presence of the impact of dissociative reference groups (the second experimental

treatment).

Associative refernce group was operationalized by posing a scenario in which a subject is asked to imagine him-or herself as recommended by a liked, respectable friend to buy a certain type of telephone which is different from what is in the subject's mind. Thus, the impact of associative reference group is measured by this scenario:

Suppose that you have moved to a new house or an apartment and you do not have a telephone or television. You plan to purchase them. Suppose that there are three types of telephones and three types of televisions. For telephones, the three types are (1) standard dial telephones, (2) cordless telephones, and (3) phonevision telephones. The standard dial telephone looks like the phones you see in most homes. The cordless telephone is portable and pocket-size. The phonevision telephone is designed to allow the user to view, on a small screen, the other person on the phone. However, this type of telephone cannot be operated at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that a substantial price increase is expected once the satellite hookup is available.

For television, the three types are (1) standard televisions, (2) projector screen televisions, and (3) direct-to-home satellite televisions. The standard television looks like the televisions you see in most homes. The projector screen television has a large screen (five by three feet--5' X 3') so that the picture would be larger and clearer. The direct-to-home satellite television is equipped to receive satellite beams directly without cable and has 100 channels worldwide. However, it cannot operate at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that the availability of the product will be very limited once the satellite is in place.

Now assume that you have a preference for one particular type of telephone and one particular type of television, and you actually set out to buy the two items at an electronics store. While you are in the store you run into someone you have known casually, but whom you have always particularly liked and respected. This person sees what you are about to buy and tells you that you will be making a mistake. Your acquaintance recommends that, instead, you buy a different type of telephone which is cordless and has a clock radio, and a different type of television that has a stereo speaker system.

Assume money is not a major concern, and assume each of the different types of telephone and television is priced within the range you would be willing to pay.

On the following scale, please indicate how likely it is that you would buy each type of telephone and each type of television.

| | Definitely would buy | Probably would buy | Might or might not buy | Probably would not buy | Definitely would not buy |
|-----------------------------------|----------------------------|--------------------------|------------------------------|------------------------------|--------------------------------|
| Standard telephone | () | () | () | () | () |
| Cordless telephone | () | () | () | () | () |
| Phonevision Telephone | () | () | () | () | () |
| Standard television | () | () | () | () | () |
| Projector screen television | () | () | () | () | () |
| Direct-to-home television | () | () | () | () | () |

On the other hand, the influence of dissociative reference groups is measured through a statement which is similar to the above except for the kind of reference group:

Suppose that you have moved to a new house or an apartment and you do not have a telephone or television. You plan to purchase them. Suppose that there are three types of telephones and three types of televisions. For telephones, the three types are (1) standard dial telephones (2) cordless telephones, and (3) phonevision telephones. The standard dial telephone looks like the phones you see in most homes. The cordless telephone is portable and pocket-size. The phonevision telephone is designed to allow the user to view, on a small screen, the other person on the phone. However, this type of telephone cannot be operated at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that a substantial price increase is expected once the satellite hookup is available.

For television, the three types are (1) standard televisions, (2) projector screen televisions and (3) direct-to-home satellite televisions. The standard television looks like the televisions you see in most homes. The projector screen television has a large screen (five by three feet--5' X 3') so that the picture would be larger and clearer. The direct-to-home satellite telephone is equipped to receive satellite beams directly without cable and has 100 channels worldwide. However, it cannot operate at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that the availability of the product will be very limited once the satellite is in place.

Now assume that you have a preference for one particular type of telephone and one particular type of television, and you actually set out to buy the two items at an electronics store. While you are in the store you run into someone you have known casually, but whom you have never particularly liked and respected. This person sees what you are about to buy

and tells you that you will be making a mistake. Your acquaintance recommends that, instead, you buy a different type of telephone which is cordless and has a clock radio, and a different type of television that has a stereo speaker system.

Assume money is not a major concern, and assume each of the different types of telephone and television is priced within the range you would be willing to pay.

On the following scale, please indicate how likely it is that you would buy each type of telephone and each type of television.

| | <u>Definitely would buy</u> | <u>Probably would buy</u> | <u>Might or might not buy</u> | <u>Probably would not buy</u> | <u>Definitely would not buy</u> |
|-----------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|---|
| Standard telephone | () | () | () | () | () |
| Cordless telephone | () | () | () | () | () |
| Phonevision telephone | () | () | () | () | () |
| Standard television | () | () | () | () | () |
| Projector screen television | () | () | () | () | () |
| Direct-to-home television | () | () | () | () | () |

The control group will be administered the F.A.S.T. Time Orientation Test, the measure of innovativeness, but the purchase situation is stated without reference to any group influences as follows:

Suppose that you have moved to a new house or an apartment and you do not have a telephone or television. You plan to purchase them. Suppose that there are three types of telephones and three types of televisions. For telephones, the three types are (1) standard dial telephones, (2) cordless telephones, and (3) phonevision telephones. The standard dial telephone looks like the phones you see in most homes. The cordless telephone is portable and pocket-size. The phonevision telephones is designed to allow the user to view, on a small screen, the other person on the phone. However, this type of telephone can not be operated at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that a substantial price increase is expected once the satellite hookup is available.

For televisions, the three types are (1) standard televisions, (2) projector screen televisions, and (3) direct-to-home satellite televisions. The standard television looks like the televisions you see in most homes. The projector screen television has a large screen (5' X 3') so that the picture would be larger and clearer. The direct-to-home satellite telephone is equipped to receive satellite beams directly without cable and has 100 channels world-wide. However, it cannot operate at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that the availability of the product will be very limited once the satellite is in place.

Assume money is not a major concern and assume each of the above types of telephones and televisions is priced within the range you would be willing to pay:

How likely is it that you would buy each one of the following products

| | <u>Definitely would buy</u> | <u>Probably would buy</u> | <u>Might or might not buy</u> | <u>Probably would not buy</u> | <u>Definitely would not buy</u> |
|-----------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|---|
| Standard telephone | () | () | () | () | () |
| Cordless telephone | () | () | () | () | () |
| Phonevision telephone | () | () | () | () | () |
| Standard television | () | () | () | () | () |
| Projector screen television | () | () | () | () | () |
| Direct-to-home television | () | () | () | () | () |

Pilot Study

Prior to the study a pilot study was undertaken to test the questionnaire. For this purpose the three different versions of the questionnaire were administered to a hundred undergraduate students in the Marketing Department, Baruch College, CUNY. The specific objective of this pilot study is centered around (1) the first section of the questionnaire, i.e., to test the language level of the different scenarios used to measure the purchase situation and the experimental treatments, (2) testing the type of responses to be elicited by the different scenarios, and (3) testing whether the products of the study are perceived differently by the subjects.

More specifically, whether standard telephone and standard televisions were representative of "me-too" products; cordless telephones and projector-screen televisions exemplify innovations which are of current consumption and immediate gratification; and phonevisions telephones and direct-to-home satellite television represent innovations which are of future benefits and delayed gratification.

For the last object, i.e., whether the study's products are perceived differently by the subjects, the semantic differential technique was employed. That is, the subjects were asked to evaluate the three types of both telephones and televisions, on a 5-point scale, in terms of these bipolar antonyms: traditional vs. modern, noninnovative vs. innovative, present benefits vs. future benefits.

The results of this pretest shows that the subjects did perceive the three kinds of both telephones and televisions differently. In addition, as a result of this pretest, the language of the scenarios was improved to crystalize each purchase situation.

Method of Analysis

For all measures, descriptive statistics including frequency distribution of the appropriate index were computed. The frequency distribution on the F.A.S.T. time Orientation Test, i.e., the focus measure, allowed for

categorizing subjects as past-, present-, or future-oriented. The scoring key of the F.A.S.T. test was used for this categorization.

Once subjects were so categorized, t-tests were conducted to test for mean differences between past-, and future-oriented respondents in regard to their scores on the innovativeness scale (hypothesis 1). Also, t-test was also conducted to consider mean differences between past-, and future-oriented respondents in regard to their willingness to delay gratification (hypothesis 2).

Chi-square was used to test hypotheses 3, 4, and 5 on the relationship between time orientation and innovation preferences. Finally, three-dimensional crosstabulations were used to test the experimental hypotheses (hypotheses 6 and 7) on the influence of the moderating variables, i.e., associative and dissociative reference groups, on the relationship between time orientation and innovation preference.

Summary

This chapter has outlined the measures and procedures that were used in collecting the data and testing the hypotheses. F.A.S.T. Time Orientation Test (Settle et al., 1977) was used to measure focus and tenacity. The Open Processing Scale (Leavitt and Walton, 1974) was used to measure innate innovativeness. And actual innovativeness,

i.e., innovation preference, was measured through a five-point scale with extremes labeled "Definitely would buy" and "Definitely would not buy."

The study used 594 undergraduate subjects from Marketing Department at Baruch College, CUNY. Three subjects represent the two experimental groups and the control group of the study.

Chapter IV will discuss, in detail, the procedures used to analyze the data. In conjunction with each specific hypothesis, the findings will be interpreted.

CHAPTER IV
ANALYSIS AND INTERPRETATION OF DATA

Introduction

The experimental design and research methodology employed in this study were presented in the previous chapter. This chapter examines the research findings concerning the test of the hypotheses suggested in Chapter 2.

The research hypotheses, restated, consist of two types: (1) correlational hypotheses (hypothesis 1 to hypothesis 5) reflect the suggested relationships between time orientation and innovativeness, and (2) experimental hypotheses (hypothesis 6 and hypothesis 7) reflect the influence of the mediating variables, i.e., reference groups, on the relationship between time orientation and innovativeness.

In this study, the control group (246 subjects), which had no reference group influence, served two main purposes: first, it was used to test the correlational hypotheses. Second, it served as a comparison group against which the two experimental groups were compared.

The subjects were categorized, based on the focus scale of the F.A.S.T. Time Orientation Test (Settle and Alreck, 1977, 1978), as past-, present-, or future-oriented.

And based on the tenacity scale of the F.A.S.T. test, the subjects were classified as either tenacious, i.e., those who are willing to delay gratification over time, or not tenacious, i.e., those who are not willing to delay gratification over time. Finally, the subjects were categorized, based on the Open Processing Scale (Leavitt and Walton, 1974), either innovative or not innovative.

Results: Analysis and Interpretation of Data

The following discussion will present all the relevant data analyses as they reflect on the hypotheses presented in Chapter II. In all cases, time orientation was treated as the independent variable.

Hypothesis 1 and hypothesis 2 were tested through t-tests-- as both innovativeness and tenacity were measured by continuous scales. However, chi-square analyses were used to test hypothesis 3 through hypothesis 7, as the subjects' preferences for each of the study's products were measured by an ordinal scale.

Hypothesis 1: The Relationship Between Time Orientation and Innovativeness

The first hypothesis was that future-oriented consumers are more likely than past-oriented consumers to be innovative. This hypothesis was tested through t-test. Table 2 compares the mean scores of innovativeness for past-, and future-oriented respondents. The data show that

TABLE 2
 T-TEST FOR THE DIFFERENCE BETWEEN
 FUTURE-, AND PAST-ORIENTED
 RESPONDENTS REGARDING
 THEIR INNOVATIVENESS

| Kind of TO* | Mean | t | df | p |
|--------------------|-------|-------|----|------|
| Future Orientation | 82.80 | | | |
| Past Orientation | 78.23 | -2.25 | 97 | 0.03 |

*TO is Time Orientation

these two groups are significantly different in regard to their innovativeness, and that future-oriented respondents did score higher than past-oriented respondents. Thus, this hypothesis was supported.

These results are consistent with previous studies. Settle, Alreck, and Glasheen (1977) found that future orientation is significantly correlated with innovative behavior as measured by AIO. More specifically, future oriented persons were found to be innovative. However, past orientation was found, in the same study, to be significantly correlated with conservativeness and cautiousness which are characteristics of laggards (Rogers, 1983).

Hypothesis 2: the Relationship between Time Orientation and Delaying Gratification

The second hypothesis suggests that future-oriented consumers are more likely than both past-, and present-oriented consumers to be tenacious, i.e., willing to delay gratification over time. This hypothesis was supported. The results of t-tests presented in Table 3 show that future-, and past-oriented respondents did differ in their tenacity. Similarly, the data indicate that future-, and present-oriented persons are also significantly different in regard to their tenacity.

These results strongly support this second

TABLE 3
 T-TESTS FOR DIFFERENCES BETWEEN
 THE DIFFERENT KINDS OF TIME
 ORIENTATION IN REGARD
 TO TENACITY

| Kind of TO* | Mean | t | df | p |
|---------------------|-------|-------|-----|------|
| Future Orientation | 40.0 | | | |
| Past Orientation | 36.32 | -2.20 | 97 | 0.03 |
| Future Orientation | 40.0 | | | |
| Present Orientation | 37.17 | -2.15 | 200 | 0.03 |
| Present Orientation | 37.17 | | | |
| Past Orientation | 36.32 | -0.59 | 189 | 0.55 |

*TO is time orientation

hypothesis, and they are also consistent with previous studies. Settle, Alreck, and Belck (1981a) found that measures of future orientations and willingness to delay gratification were significantly related. Similarly, Rabin (1978) found that future orientation is significantly related to tendency to delay gratification, and negatively related to impulsivity.

A noteworthy finding, which further supports the above hypothesis, is that there is no significant difference between past-, and present-oriented respondents regarding their tenacity. The data shown in Table 3 support this conclusion.

The Relationship Between Time Orientation and Innovation Preference

Hypotheses 3, 4, and 5 are concerned with the relationship between time orientation and innovativeness as measured by behavioral intentions to buy products that vary in innovativeness. The general hypothesis is that each type of time orientation would cause a willingness to buying a particular type of innovation.

Accordingly, it was predicted that past-oriented consumers would favor "me-too" innovations; present-oriented consumers would prefer innovations which are of current consumption and immediate gratification; and future-oriented consumers would be prone to innovations

which are of future benefits and delayed gratification.

These hypotheses, as explained in Chapter III, are tested using three types of telephones and three types of televisions. The basic assumption is that both standard telephones and standard televisions exemplify "me-too" innovations. Cordless telephones and projector screen televisions are supposed to represent innovations that are of current consumption and immediate gratification. Lastly, phonevision telephones and direct-to-home satellite televisions are supposed to exemplify innovations of future benefits and delayed gratification.

Hypothesis 3: Past Orientation and Innovation Preference

Hypothesis 3 predicts that past-oriented consumers are more likely than both present-, and future-oriented consumers to buy "me-too" innovations. This hypothesis was tested (1) by comparing past orientation against present orientation in relation to telephone and television preferences, and (2) by comparing past orientation vs. future orientation in relation to the preference for telephones and televisions.

Telephone Preference

Table 4 and Table 5 present data which support this hypothesis in relation to telephone preference. Table 4 shows that past-oriented respondents are significantly different from present-oriented respondents in regard to

TABLE 4
 A COMPARISON BETWEEN PAST-, AND
 PRESENT-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCES
 FOR STANDARD TELEPHONES

| Telephone Preference | <u>Time Orientation</u> | | Total % |
|-------------------------|-------------------------|--------------|------------|
| | Past % | Present % | |
| Standard Telephone | 71.0 | 50.5 | 55.1 |
| Cordless Telephone | 16.1 | 38.1 | 33.1 |
| Phonevision Telephone | 12.9 | 11.4 | 11.8 |
| Total | 100.0 | 100.0 | 100.0 |
| Base | (31) | (105) | (136) |

$$x^2 = 5.85; 2 \text{ df}; p < .05$$

TABLE 5
 A COMPARISON BETWEEN PAST-, AND
 FUTURE-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCES
 FOR STANDARD TELEPHONES

| Telephone Preference | <u>Time Orientation</u> | | Total % |
|-------------------------|-------------------------|--------------|------------|
| | Past % | Present % | |
| Standard Telephone | 71.0 | 28.6 | 46.6 |
| Cordless Telephone | 16.1 | 47.6 | 34.2 |
| Phonevision Telephone | 12.9 | 23.8 | 19.2 |
| | Total | 100.0 | 100.0 |
| | Base | (31) | (73) |

$$x^2 = 13.15; 2df; p < 0.001$$

their telephone preference. The table shows also that most of the future oriented respondents (71 percent) preferred standard telephones, whereas about one-half of the present-oriented respondents preferred this same telephone.

Similarly, the data presented in Table 5 show that past-, and future-oriented individuals are not similar in their telephone preference. That is, 71 percent of the past-oriented respondents, as shown in the table, preferred standard telephones whereas less than 29 percent of the future-oriented individuals preferred this telephone.

Television Preference

the data presented in Table 6 and Table 7 are concerned with the third hypothesis in relation to television preference. The overall chi-square for each table is not significant. Thus, this hypothesis was not supported in regard to television preference. However, the results, as shown in the two tables, are in the expected direction. More specifically, Table 6 shows that there are 48.4 percent of the past-oriented respondents preferred standard televisions, whereas there are 42.6 percent of the present-oriented persons preferred this same television. Similarly, Table 7 shows that 48.4 percent of the past-oriented respondents preferred standard telephones, whereas 27 percent of the future-oriented respondents preferred this type of television.

TABLE 6
 A COMPARISON BETWEEN PAST-, AND
 PRESENT ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCES
 FOR STANDARD TELEVISIONS

| Television Preference | <u>Time Orientation</u> | | Total % |
|--------------------------------|-------------------------|--------------|------------|
| | Past % | Present % | |
| Standard Television | 48.4 | 42.6 | 44.0 |
| Projector-Screen Television | 25.8 | 38.3 | 35.2 |
| Satellite Television | 25.8 | 19.1 | 20.8 |
| | Total | 100.0 | 100.0 |
| | Base | (31) | (125) |

$$x^2 = 1.71; 2df; N.S.$$

TABLE 7
 A COMPARISON BETWEEN PAST-, AND
 FUTURE-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCES
 FOR STANDARD TELEVISIONS

| <u>Television</u> Preference | <u>Time Orientation</u> | | Total % |
|---------------------------------|-------------------------|-------------|------------|
| | Past % | Future % | |
| Standard Television | 48.4 | 27.0 | 36.8 |
| Projector-Screen Television | 25.8 | 37.8 | 32.4 |
| Satellite Television | 25.8 | 35.2 | 30.8 |
| | Total | 100.0 | 100.0 |
| | Base | (31) | (68) |

$$x^2 = 3.32; 2df; N.S.$$

Additional analyses were done to compare the three categories of time orientation in regard to preferences for the different types of telephones and televisions simultaneously. These comparisons are presented in Tables 8, 11, and 14. Table 8 compares past-orientation against each of the present and future orientations regarding the preference of standard telephones and standard televisions simultaneously. Although chi-square for Table 9 is not significant, the results are in the expected direction. That is, the table shows that 91.7 percent of the past-oriented respondents preferred both standard telephones and standard televisions, whereas 76.5 percent of the present-oriented respondents and 75 percent of the future-oriented respondents preferred these same types of telephones and televisions.

In conclusion, this third hypothesis, on the relation between past orientation and innovation preference, was partially supported. more specifically, the hypothesis was supported in regard to telephones but not televisions. However, the results in regard to televisions are in the expected direction. (The discussion of all rejected hypotheses will be presented at the end of this chapter.)

Hypothesis 4: The relationship Between Present Orientation and Innovation Preference

TABLE 8

A COMPARISON AMONG PAST-, PRESENT-, AND
 FUTURE-ORIENTED RESPONDENTS IN REGARD
 TO THEIR PREFERENCE FOR STANDARD
 TELEPHONES CONTROLLING FOR
 STANDARD TELEVISIONS

| Telephone Preference | <u>Time Orientation</u> | | | Total % |
|-------------------------|-------------------------|--------------|-------------|------------|
| | Past % | Present % | Future % | |
| Standard Telephone | 91.7 | 76.5 | 75.0 | 79.6 |
| Cordless Telephone | 0.0 | 20.6 | 25.0 | 16.7 |
| Phonevision Telephone | 8.3 | 2.9 | 0.0 | 3.7 |
| | Total | 100.0 | 100.0 | 100.0 |
| | Base | (12) | (34) | (8) |
| | | (54) | | |

$$x^2 = 3.97; 4df; N.S.$$

This fourth hypothesis states that present-oriented consumers are more likely than future-oriented consumers to favor innovations which are of current consumption and benefits. This hypothesis was tested by comparing present-oriented respondents against future-oriented respondents in relation to their telephone and television preferences.

Telephone Preference

Table 9 shows that present-, and future-oriented respondents are significantly different in their telephone preference. However, the results are not in the hypothesized direction as the table shows that the present-oriented respondents who preferred the cordless telephones (38.1 percent) are less than the future-oriented respondents who preferred this type of telephones (47.6 percent). Thus, hypothesis 4 was rejected in regard to telephone preference.

Television Preference

The data presented in Table 10 show that there is no significant difference between present-oriented individuals and future-oriented individuals in regard to their television preferences. Thus, hypothesis 4 was also rejected concerning television preference.

When present-, and future-oriented respondents were compared in relation to their preferences for cordless

TABLE 9
 A COMPARISON BETWEEN PRESENT-, AND
 FUTURE-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCES
 FOR CORDLESS TELEPHONES

| Telephone Preference | <u>Time Orientation</u> | | Total % |
|-------------------------|-------------------------|-------------|------------|
| | Present % | Future % | |
| Standard Telephone | 50.5 | 28.6 | 44.2 |
| Cordless Telephone | 38.1 | 47.6 | 40.8 |
| Phonevision Telephone | 11.4 | 23.8 | 15.0 |
| | Total | 100.0 | 100.0 |
| | Base | (105) | (147) |

$$x^2 = 6.99; 2df; p < 0.05$$

TABLE 10
 A COMPARISON BETWEEN PRESENT-, AND
 FUTURE-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCES
 FOR PROJECTOR-SCREEN
 TELEVISIONS

| Television Preference | <u>Time Orientation</u> | | Total % |
|--------------------------------|-------------------------|-------------|-------------|
| | Present % | Future % | |
| Standard Television | 42.6 | 27.1 | 38.2 |
| Projector-Screen Television | 38.3 | 37.8 | 38.2 |
| Satellite Television | <u>19.1</u> | <u>35.1</u> | <u>23.6</u> |
| Total | 100.0 | 100.0 | 100.0 |
| Base | (94) | (37) | (131) |

$$x^2 = 4.54; 2df; N.S.$$

TABLE 11
 A COMPARISON BETWEEN PRESENT-, AND
 FUTURE-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCE
 FOR CORDLESS TELEPHONES
 CONTROLLING FOR PROJECTOR-
 SCREEN TELEVISIONS

| Telephone Preference | <u>Time Orientation</u> | | Total % |
|-------------------------|-------------------------|-------------|------------|
| | Present % | Future % | |
| Standard Telephone | 43.3 | 23.1 | 37.2 |
| Cordless Telephone | 56.7 | 69.2 | 60.5 |
| Phonevision Telephone | 0.6 | 7.7 | 2.3 |
| | Total | 100.0 | 100.0 |
| | Base | (30) | (43) |

$$x^2 = 3.54; 2df; N.S.$$

telephones and projector-screen televisions simultaneously, as shown in Table 11, this hypothesis was also rejected. The data presented in Table 11 show that the present-oriented respondents who preferred both cordless telephones and projector-screen televisions (56.7 percent) are less than those future-oriented respondents who preferred these two types of telephones and televisions (69.2 percent).

Hypothesis 5: The Relationship Between Future Orientation and Innovation Preference

Hypothesis 5 predicts that future-oriented consumers are more likely than present-oriented consumers to be willing to buy innovations which are of future benefits and delayed gratification. Table 12 compares future-oriented subjects and present-oriented subjects in relation to their telephone preferences. The data support this hypothesis. The table shows that there is a significant difference between future-oriented respondents (23.8 percent) and present-oriented respondents (11.4 percent) regarding their preference for phonevision telephones.

In regard to television preference, Table 13 shows that the overall chi-square, for the relationship between time orientation (present vs. future) and preference for direct-to-home satellite television, is not significant. Thus, hypothesis 5 was not supported in regard to

TABLE 12
 A COMPARISON BETWEEN FUTURE-, AND
 PRESENT-ORIENTED RESPONDENTS
 REGARDING THEIR PREFERENCE
 FOR PHONEVISION TELEPHONES

| Telephone Preference | <u>Time Orientation</u> | | Total % |
|-------------------------|-------------------------|-------------|------------|
| | Present % | Future % | |
| Standard Telephone | 50.5 | 28.6 | 44.2 |
| Cordless Telephone | 38.1 | 47.6 | 40.8 |
| Phonevision Telephone | 11.4 | 23.8 | 15.0 |
| Total | 100.0 | 100.0 | 100.0 |
| base | (105) | (42) | (147) |

$$x^2 = 6.99; 2df; p < 0.05$$

TABLE 13

A COMPARISON BETWEEN FUTURE-, AND
PRESENT-ORIENTED RESPONDENTS
REGARDING THEIR PREFERENCE
FOR SATELLITE TELEVISIONS

| Television Preference | <u>Time Orientation</u> | | Total % |
|--------------------------------|-------------------------|-------------|------------|
| | Present % | Future % | |
| Standard Television | 42.6 | 27.1 | 38.2 |
| Projector-Screen Television | 38.3 | 37.8 | 38.2 |
| Satellite Television | 19.1 | 35.1 | 23.6 |
| Total | 100.0 | 100.0 | 100.0 |
| Base | (94) | (37) | (131) |

$$\chi^2 = 4.54; 2df; p \leq 0.10$$

TABLE 14

A COMPARISON AMONG PAST-, PRESENT-, AND
 FUTURE-ORIENTED RESPONDENTS REGARDING
 THEIR PREFERENCE FOR PHONEVISION
 TELEPHONE CONTROLLING FOR
 DIRECT-TO-HOME SATELLITE
 TELEVISIONS

| Telephone Preference | <u>Time Orientation</u> | | Total % |
|-------------------------|-------------------------|-------------|------------|
| | Present % | Future % | |
| Standard Telephone | 23.3 | 7.7 | 16.7 |
| Cordless Telephone | 35.3 | 38.5 | 36.7 |
| Phonevision Telephone | 41.2 | 53.8 | 46.6 |
| | Total | 100.0 | 100.0 |
| | Base | (17) | (30) |

$$\chi^2 = 1.38; 2df; N.S.$$

televisions. However, the results, as shown in Table 13 are in the expected direction. That is, the table shows that 35.1 percent of the future-oriented respondents preferred direct-to-home satellite televisions, whereas 19.1 percent of the present-oriented respondents preferred the same type of telephones.

A comparison between future-, and present-oriented respondents in relation to their preference for both phonevision telephones and direct-to-home satellite televisions is presented in Table 14. Chi-square for this table is not significant. However, the results are in the expected direction. That is, Table 14 shows that 53.8 percent of the future-oriented respondents preferred both phonevision telephones and direct-to-home satellite televisions, whereas 41.2 percent of the present-oriented respondents preferred these two types of telephones and televisions.

Thus, hypothesis 5 was partially supported. That is, the prediction that future-oriented consumers are more likely than present-oriented consumers to prefer innovations which are of future benefits and delayed gratification was supported in relation to telephones but not televisions. However, the results, regarding the relationship between future orientation and preference for direct-to-home satellite televisions, are in the expected direction.

The Experimental Hypotheses: Hypotheses 6 and 7

Hypothesis 6 and hypothesis 7 address the experimental part of this study. The first five hypotheses have examined the relation between time orientation and both innate innovativeness and actual innovativeness, assuming that there is no situational constraints mediating this relationship. These last two hypotheses examine, in an experimental setting, the impact of situational variables on the previously hypothesized relationships between time orientation and actual innovativeness. More specifically, hypothesis 6 and hypothesis 7 are concerned with how associative reference groups and dissociative reference groups are likely to influence the relationship between time orientation and innovation preference.

Both hypotheses 6 and 7 were tested through three-dimensional cross tabulations, i.e., all three variables: time orientation, reference groups, and innovations. Kerlinger (1973) points out that three-dimensional tables are used to "'specify' a relation, to tell us when or under what conditions a relation is more or less pronounced" (p. 176). Thus, the "specification" function of the three-dimensional table is ". . . the process of describing the conditions under which a particular relationship may exist or not exist, or may exist to greater or lesser degree" (Kerlinger, 1973, p. 176).

Hypothesis 6: Time Orientation, Innovation Preference,
and Associative Reference Groups

Hypothesis 6 was that past-, present-, and future-oriented consumers are less likely to differ in their innovative behavior in the presence of recommendations from associative reference groups. The hypothesis was tested by comparing the experimental group, that had the influence of associative reference groups, against the control group, which had no reference group influence, in relation to telephones and televisions.

Telephones

Table 15 presents data on the relationship between time orientation and telephone preference for the control group. The data show a significant overall relationship, as previously hypothesized, between time orientation (past, present, and future orientations) and telephone preference (standard, cordless, and phonevision telephones).

However, when associative reference group influence mediated the relationship between time orientation and telephone preference, the relationship disappeared. This is evident from Table 16 which shows the relationship between time orientation and telephone preference

TABLE 15

THE RELATIONSHIP BETWEEN TIME ORIENTATION
AND TELEPHONE PREFERENCE IN THE ABSENCE
OF ASSOCIATIVE REFERENCE GROUPS'
INFLUENCE
(THE CONTROL GROUP)

| Telephone Preference | <u>Time Orientation</u> | | | Total % |
|-------------------------|-------------------------|--------------|-------------|------------|
| | Past % | Present % | Future % | |
| Standard Telephone | 71.10 | 51.0 | 28.6 | 49.2 |
| Cordless Telephone | 16.1 | 37.5 | 47.6 | 36.2 |
| Phonevision Telephone | 12.9 | 11.5 | 23.8 | 14.6 |
| | <hr/> | <hr/> | <hr/> | <hr/> |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Base | (31) | (104) | (42) | (177) |

$$x^2 = 14.85; 4df; p < 0.01$$

TABLE 16

THE RELATIONSHIP BETWEEN TIME ORIENTATION
AND TELEPHONE PREFERENCE IN THE PRESENCE
OF ASSOCIATIVE REFERENCE GROUPS'
INFLUENCE
(THE FIRST EXPERIMENTAL GROUP)

| Telephone Preference | <u>Time Orientation</u> | | | Total % |
|-------------------------|-------------------------|--------------|-------------|------------|
| | Past % | Present % | Future % | |
| Standard Telephone | 42.9 | 40.6 | 44.4 | 41.9 |
| Cordless Telephone | 33.3 | 40.6 | 33.33 | 37.1 |
| Phonevision Telephone | 23.8 | 18.8 | 22.3 | 21.0 |
| | Total | 100.0 | 100.0 | 100.0 |
| | Base | (42) | (64) | (14.5) |

$$x^2 = 0.83; 4df; N.S.$$

controlling for the associative reference group's influence. This is the same phenomenon as that of interaction. Interaction means "an independent variable affects a dependent variable differently at different levels or facets of another independent variable (Kerlinger, 1973, p. 177). This is what happened here: the relationship between time orientation and telephone preference is different depending upon the absence or presence of the influence of associative reference groups--as shown in Table 15 and Table 16, respectively.

Thus, hypothesis 6 was supported in regard to telephones. More specifically, a comparison between the experimental group, whose data are presented in Table 16, and the control group, whose data are presented in Table 15, shows that the influence of associative reference groups overrode the influence of time orientation in regard to telephone preference.

Televisions

The data presented in Table 17 are concerned with the overall relationship between time orientation and television preference for the control group. The table shows that this relationship is not significant. However, when the influence of associative reference groups mediated the relationship between time orientation and television preference, this relationship, as shown in

TABLE 17
 THE RELATIONSHIP BETWEEN TIME ORIENTATION
 AND TELEVISION PREFERENCE IN THE
 ABSENCE OF REFERENCE
 GROUPS' INFLUENCE
 (THE CONTROL GROUP)

| Television Preference | <u>Time Orientation</u> | | | Total % |
|--------------------------------|-------------------------|--------------|-------------|------------|
| | Past % | Present % | Future % | |
| Standard Television | 48.4 | 43.0 | 27.1 | 40.4 |
| Projector-Screen Television | 25.8 | 37.6 | 37.8 | 35.4 |
| Satellite Television | 25.8 | 19.4 | 35.1 | 24.2 |
| | Total | 100.0 | 100.0 | 100.0 |
| | Base | (31) | (93) | (161) |

$$x^2 = 6.05; 4df; N.S.$$

TABLE 18

THE RELATIONSHIP BETWEEN TIME ORIENTATION
AND TELEVISION PREFERENCE IN THE
PRESENCE OF ASSOCIATIVE
REFERENCE GROUPS'
INFLUENCE
(THE EXPERIMENTAL GROUP)

| Telephone Preference | <u>Time Orientation</u> | | | Total % |
|--------------------------------|-------------------------|--------------|-------------|------------|
| | Past % | Present % | Future % | |
| Standard Television | 18.9 | 36.7 | 23.5 | 27.7 |
| Projector-Screen Television | 24.5 | 45.0 | 29.4 | 34.6 |
| Satellite Television | 56.6 | 18.3 | 47.1 | 37.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Base | (53) | (60) | (17) | (130) |

$$\chi^2 = 18.29; 4df; p = 0.001$$

Table 18, is significant. This change in the relation between time orientation and television preference, in the presence of recommendations from associative reference groups, might be attributed to the influence of associative reference groups. However, this influence was not in the hypothesized direction. Thus, hypothesis 6 was not supported in regard to televisions.

Hypothesis 7: Time Orientation, Innovative Behavior, and Dissociative Reference Groups

Hypothesis 7 predicts that past-, present-, and future oriented consumer are less likely to differ in their innovative behavior, as hypothesized previously, in the presence of recommendations from dissociative reference groups. This hypothesis was tested by comparing the experimental group, which had the influence of dissociative reference groups against the control group.

According to this hypothesis, it is predicted that the influence of dissociative reference groups would not affect the relation between time orientation and innovation preference. The data presented in both Table 19 and Table 20 support this hypothesis in regard to telephones, but not televisions.

Telephones

Table 19 presents data on the relation between time orientation and telephone preference controlling for the

TABLE 19
 THE RELATIONSHIP BETWEEN ORIENTATION AND
 TELEPHONE PREFERENCE IN THE PRESENCE
 OF DISSOCIATIVE REFERENCE
 GROUPS' INFLUENCE
 (THE SECOND EXPERIMENTAL GROUP)

| Telephone Preference | <u>Time Orientation</u> | | Total & |
|-------------------------|-------------------------|--------------|------------|
| | Past % | Present % | |
| Standard Telephone | 15.4 | 12.5 | 15.3 |
| Cordless Telephone | 39.2 | 75.0 | 45.9 |
| Phonevision Telephone | 44.9 | 12.5 | 38.8 |
| Total | 100.0 | 100.0 | 100.0 |
| Base | (69) | (16) | (85) |

$$\chi^2 = 7.26; 2df; p < 0.03$$

influence of dissociative reference groups. The table shows that this relationship is significant, the same as the control group whose data are presented in Table 15. This indicates that the presence of the influence of dissociative reference groups did not affect the relationship between time orientation and innovative behavior. Thus, hypothesis 7 was supported in regard to telephones.

Televisions

Table 20 presents data on the relationship between time orientation and television preference controlling for dissociative reference groups' influence. The table shows that the relationship is not significant, the same as the control group whose data are presented in Table 17. This implies that the influence of dissociative reference groups did not affect the relationship between time orientation and television preference--as was theorized. However, hypothesis 7 was not supported in regard to television as the relationship is not significant while it was predicted to be.

The above results, which partially support hypothesis 6 and hypothesis 7, are consistent with previous studies. Mischel (1977) suggests that personality traits may be useful in predicting behavior when situational constraints are weak but not when they

TABLE 20

THE RELATIONSHIP BETWEEN TIME ORIENTATION
AND TELEVISION PREFERENCE IN THE
PRESENCE OF DISSOCIATIVE
REFERENCE GROUPS'
INFLUENCE
(THE SECOND EXPERIMENTAL GROUP)

| Television Preference | <u>Time Orientation</u> | | Total % |
|--------------------------------|-------------------------|--------------|------------|
| | Past % | Present % | |
| Standard Television | 3.3 | 0.0 | 2.6 |
| Projector-Screen Television | 26.7 | 11.5 | 23.3 |
| Satellite Television | 70.0 | 88.5 | 74.1 |
| Total | 100.0 | 100.0 | 100.0 |
| Base | (90) | (26) | (116) |

$$x^2 = 3.77; 2df; N.S.$$

are strong. Monson et al.'s (1982) study, referred to in Chapter II, provides support to Mischel's suggestion. Monson et al. (1982) found that there are some settings where personality traits can be used to predict behavior and other settings where personality traits can not be used to predict behavior. Traits are most likely to be useful in those settings where situational pressures are weak but not when they are strong (Monson et al., 1982)

This was the case in this study. Associative reference groups' influence is a strong situational pressure whose presence resulted, as predicted in hypothesis 6, in breaking down the influence of time orientation, a personality trait, on innovative behavior (particularly, telephone preference). On the other hand, dissociative reference groups' influence is such that its negativity gives rise to the personality trait, i.e., time orientation. Thus, as predicted in hypothesis 7, the presence of the influence of dissociative reference groups did not affect the relationship between time orientation and innovative behavior.

Discussion

To summarize, the findings were as follows:

1. The first hypothesis, on the relationship between time orientation and innate innovativeness, and the second hypothesis, on the relation between time

orientation and delaying gratification, were supported.

2. Hypothesis 3, on the relationship between past orientation and preferences for standard telephones and standard televisions, and hypothesis 5, on the relationship between future orientation and preferences for phonevision telephones and direct-to-home satellite televisions, were partially supported.

3. Hypothesis 4, on the relationship between present orientation and preferences for cordless telephones and projector-screen televisions, was rejected.

4. Hypothesis 6 and hypothesis 7, which address the experimental part of the study on the influence of situational constraints (associative and dissociative reference groups), were partially supported.

This section discusses the possible explanations of the rejection of hypothesis 4 as well as the partial support of hypotheses 3, 5, 6, and 7. An important point here is that all of these hypotheses were consistently rejected in regard to television, and the findings were mixed in regard to telephones.

In regard to the rejection of hypotheses 3, 4, and 5 in relation to television preference, it could be speculated that there might be some "suppressor variables" which concealed the predicted relationships between time orientation and television preference.

Rosenberg (1968) points out that:

One may find that certain test factors, which we shall call suppressor variables, may intercede to cancel out, reduce, or conceal a true relationship between two variables.

. . . A suppressor variable is one which weakens a relationship, which conceals its true strength. In some cases, it may weaken the relationship to the point of causing its complete disappearance, but this situation will not always obtain. So long as it damps down or attenuates the full extent of the relationship, it poses the danger of misleading interpretations.

The theoretical significance of suppressor variables is evident. If one tests an hypothesis based upon a theoretical scheme but finds that the theory is defective or erroneous. The theory may, however, be sound, and the data, if properly analyzed, may support it (p. 85)

The subjects of this study are undergraduate students at Baruch College, CUNY. Students at CUNY are more likely to be low income. Thus, it could be speculated that income might have been a suppressor variable which concealed the relationship between time orientation and television preference. That is, the students might have perceived televisions unaffordable. Hence, they were indifferent to televisions in general. While most homes have television, a television still represents a significant expenditure, particularly for low-income people.

Another possible suppressor variable is respondents' involvement regarding televisions. Krugman (1965) proposed the concept of involvement to characterize differences in the intensity of interest with which consumers approach their dealings with the market place. Schiffman and Kanuk

(1983) point out that "consumer involvement seems to capture the extent to which consumers are concerned with a particular purchase decision and consider it to be important to them" (p. 239). Mitchell (1979) suggests that involvement has the critical properties of (1) intensity--degree of arousal, and (2) directional influence. Thus, due to the commonality of television sets in the United States, it is possible that television is not a particularly involving product.

Concerning the rejection of hypothesis 4, it could be speculated that this rejection might be attributed to the technological innovation, i.e., the cordless telephones and projector screen televisions.

In this regard, Rogers (1983, p. 13) stated that:

. . . a technological innovation has at least some degree of benefits or advantage for its potential adopters. But this advantage is not always very clear-cut or spectacular, at least not in the eyes of the intended adopters. They can seldom be very certain that an innovation represents a superior alternative to the previous practice that it might replace.

So a technological innovation creates one kind of uncertainty in the minds of potential adopters (about its expected consequences), as well as representing an opportunity for reduced uncertainty in another sense (that of the information base of the technology). The latter type of potential uncertainty reduction (the information embodied in the technological innovation itself) represents the possible efficacy of the innovation in solving an individual's felt need or perceived problem.

In this regard, Rogers (1983) has identified five product characteristics that seem to influence consumers'

acceptance of new products. Two of them are of concern here: (1) relative advantage, i.e., "the degree to which an innovation is perceived as better than the idea it supercedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience, and satisfaction are also often important components. It does not matter so much whether an innovation has a great deal of 'objective' advantage. What does matter is whether an individual perceives the innovation as advantageous" (Rogers, 1983, p. 15), and (2) compatibility, i.e., "the degree to which an innovation is perceived as being consistent with the existing values, past experience, and needs of potential adopters. An idea that is not compatible with the prevalent values and norms of a social system will not be adopted as rapidly as an innovation that is compatible" (rogers, 1983, p. 15).

An evaluation of cordless telephones and projector screentelevisions, in terms of the above discussion, may shed light on why hypothesis 4 was rejected.

Cordless telephones and projector screen televisions were conceived, as was evident from the pretest (see Chapter III, differently from the other types of telephones and television in terms of some dimensions other than "relative advantage" and "compatibility." The pretest emphasized how the respondents perceive each of the types of telephones and televisions in terms of such

characteristics as traditional vs. modern, noninnovative vs. innovative, and present benefits vs. future benefits. the pretest did show that the study's products were perceived differently in terms of these characteristics.

However, this differential perception might not have been the case in terms of relative advantage and compatibility. More specifically, cordless telephones and projector screen televisions might not be perceived in terms of relative advantage, as more advantageous than, or superior alternatives to, standard telephones and standard televisions, respectively. This might explain why most of the present-oriented respondents, as shown in Table 15, p. 26, and Table 17, p. 29), preferred standard telephones and standard televisions.

Considering "compatibility", cordless telephones and projector screen televisions might not have been perceived by the present-oriented respondent, particularly in terms of the limited space of their apartments, as useful or compatible with their needs.

Hypothesis 6 and hypothesis 7, on the influence of situational pressures (associative and dissociative reference groups) on the relationship between time orientation and innovation preference, were supported in regard to telephones, but not televisions. More specifically, the influence of associative reference groups, in hypothesis 6, did affect the relationship

between time orientation and telephone preference so that this relationship became not significant. For televisions, the influence of associative reference groups was substantial too, but it was not in the hypothesized direction.

Similarly, hypothesis 7, which predicts that the presence of the influence of dissociative reference groups does not affect the relationship between time orientation and innovation preference (i.e., this relation would remain significant), was also supported in regard to telephones, but not televisions. Although the presence of the influence of dissociative reference groups did not affect the relation between time orientation and television preference, it was not in the hypothesized direction.

As to why hypotheses 6 and 7 did not work in the hypothesized direction in regard to television, it could be attributed to the nonsupport of the hypothesized relationships between time orientation and television preference in the absence of these reference groups. That is, the relationship between time orientation and television preference, in the absence of associative reference group was not significant, i.e., it was not as hypothesized. Thus, the presence of associative reference group influence, in hypothesis 6, worked and affected this relationship to become significant (see Table 17, p.129).

and Table 18, p. 130).

Similarly, hypothesis 7 implies that the mediation of the influence of dissociative reference groups in the relationship between time orientation and innovation preference would not affect this relationship. The relationship between time orientation and television preference, in the absence of dissociative reference groups' influence, as shown in Table 17, P.128, was not significant, i.e., it was not as hypothesized. Thus, the presence of the influence of dissociative reference groups did not affect this relationship, and it remained not significant (see Table 20, p.133).

Summary

This chapter has focused on the analysis and interpretation of the data with respect to each of the seven hypotheses posited in Chapter II. The hypotheses are classified into two categories. The first category includes correlational hypotheses on the relationship between time orientation and both innate innovativeness (hypothesis 1) and actual innovativeness, i.e., innovation preference (hypotheses 3, 4, and 5). In addition, the first category includes a hypothesis on the relation between time orientation and tenacity, i.e., the willingness to delay gratification (hypothesis 2).

The second category of hypotheses includes

experimental hypotheses (hypotheses 6 and 7) on the impact of situational constraints, i.e., reference groups both associative and dissociative, when mediating the relationship between time orientation and innovative behavior.

Some hypotheses were fully supported, i.e., hypotheses 1--on the relationship between time orientation and innovativeness, and hypothesis 2--on the relation between time orientaton and the willingness to delay gratificaton over substantial periods of time.

Some other hypotheses were partially supported. That is, hypotheses 3 and 5 on the relationship between time orientaton and innovaton preference were supported in regard to telephones, but not televisions. However, the results on the relationship between time orientation and television preference, though not significant, were in the predicted directions. The reasons of the rejection of these hypotheses in regard to televisions were attributed, as discussed above, to some suppressor variables, e.g., income and involvement which might have concealed the relationship between time orientation and television preference.

Hypotheses 6 and 7 were also partially supported. Their partial support was due to the working of these hypotheses in the unexpected direction in regard to television. This was attributed, as discussed above, to the rejection of the hypothesized relationships between

time orientation and innovation preference in the absence of reference groups' influence.

Finally, hypothesis 3, that present-oriented consumers are more likely than future-oriented consumers to favor innovations which are of current consumption and benefits, was rejected. Its rejection was speculated to be due to the innovation itself and how it was perceived by the present-oriented respondents in terms of its relative advantage and compatibility.

In conclusion, the findings of the data analyzed in this chapter indicate that the relationship between time orientation and innovativeness is, by and large, theoretically sound and empirically confirmed. More specifically, time orientation and innovativeness, i.e., the predisposition to act in a certain way concerning innovation adoption, were found to be significantly associated. Similarly, a significant relationship between time orientation and delayed-, vs., immediate-, gratification was confirmed. In addition, all predictions in regard to the impact of time orientation on innovation preferences were, except hypothesis 4, confirmed concerning telephones, but not televisions.

However, the relationship between time orientation and innovation preference was found to be situational. That is, time orientation, a personality trait, is most likely to be useful in predicting innovative behavior in

settings which are free from strong situational constraints such as associative reference groups' influence. However, the presence of weak situational pressures, e.g., dissociative reference groups' influence, does not affect the relationship between time orientation and innovation-adoption behavior.

CHAPTER V
SUMMARY, CONCLUSIONS, AND DIRECTIONS
FOR FUTURE RESEARCH

In this chapter the theory and research findings presented in this dissertation will be tied together. In addition, some implications of the results as well as recommendations for future research will be presented.

Summary

Theory

The objective of the research described in the preceding chapter was to explore how time orientation (past, present, and future), as a personality trait, influences innovation-adoption behavior, and how the existence of situational constraints would affect the relationship between time orientation and innovativeness.

Time Orientation: In the field of anthropology there has been increasing awareness that people can perceive time in various ways, and that these perceptions affect the behavior of people in many ways (Graham, 1981; Rezohazy, 1972).

Settle, et al. (1981a) point out that there are three kinds of time that influence buyer behavior: economic time, socio-cultural time, and psychological time. In this

study, "time perception" or, alternatively, "time orientation", refers to this latter category of time. Lehman (1967) defines time orientation as "a person's general orientation toward the cosmic flow of time. An individual's time perspective indicates how close he feels toward the past, present, and future, or how afraid he is of any of these temporal aspects. A person's time perspective discloses whether or not he is living more in one than in any other of the dimensions of time" (p. 806).

Settle (1980) argues that "the conceptual frameworks and empirical results in this area [psychological time] can be arrayed across a spectrum from those aspects that are immediate, environmentally determined and short-lived to those that constitute durable personality traits lasting for an entire lifetime. . . . These psychological aspects of time are beginning to be shown to affect both purchase and consumption of products and services" (p. 449). He adds, "because time is such an important aspect of life, consumers could be expected to incorporate into their psychological makeup many relatively durable predispositions and perspectives relevant to it. To the extent that these differ significantly among individuals within one social-cultural dimension, they can be seen as constituting the psychological aspects of time" (Settle, 1980, p. 449).

Time orientation has been increasingly recognized as

an influential variable in consumer decision making. Graham (1981) emphasizes the importance of time perception in influencing consumer behavior based on that time perception is fundamental in relation to other perceptions. He explains:

It [time perception] is fundamental, and many other perceptions will be biased in one direction or the other depending on the person's perception of time (p. 335).

He adds:

As a person's perception of time is fundamental to the construction of a perceptual set it would seem natural that people with different perceptions of time would perceive different cue patterns and, thus, have a different organization of reality" (Graham, 1981, p. 34).

Thus, the importance of time orientation in influencing consumers', and buyers' behavior is evident.

Innovativeness: Innovativeness, on the other hand, has been of noted concern for both marketers and scholars. This is because "[t]he propensities of consumers to adopt novel products whether they are ideas, goods, or services, can play an important role in theories of brand loyalty, decision making, preference, and communications. If there were no such characteristic as innovativeness, consumer behavior would consist of a series of routinized buying responses to a static set of products. It is the inherent willingness of a consuming population to innovate that gives the marketplace its dynamic nature. On an individual basis, every consumer is, to some extent, an

innovator: all of us over the course of our lives adopt some objects or ideas that are new in our perception" (Hirschman, 1980, p. 283).

An examination of the meaning and nature of the concepts of time orientation and innovativeness reveals that they are closely related. Innovativeness means receptiveness to novel ideas (i.e., innovations). It has been argued that uncertainty (Rogers, 1983) and ambiguity (Budner, 1962) are inherent in novel ideas. Likewise, future orientation is essentially concerned with planning and expecting (Cottle, 1976). These activities involve uncertainty and ambiguity. Hawes (1979) points out that ". . . The past gives rise to the phenomenon of memory, the present to solitary moments-in-being, and the future to expectations. While there is certainty in the moment-in-being, there is the element of uncertainty in . . . expectations" (p. 5).

Thus, a future-oriented person would be disposed to accept ambiguous stimuli (e.g., novel ideas). Budner (1962) points out that ambiguity arises in situations characterized by novelty, complexity, or insolubility. Settle, Alreck, and Belk (1981) found that future orientation is positively and significantly related to tolerance for ambiguity. Tolerance for ambiguity is defined by Budner (1962) as "the tendency to perceive ambiguous situations as desirable" (see Robenson and

Shaver, 1980, p. 401).

Thus, there is reason to believe that time orientation and innovativeness are related, And that time orientation influences and predicts innovative behavior. McGuire (1977) argues that "one's aspiration and actions as a consumer are greatly affected by the extent to which one is bound by the past and by one's view of the future." He goes on to point out that "tolerance for delayed gratification is significantly influenced by the extent to one's time bending and one's view regarding the future. One's relative evaluation of the past, present, and perceived future affects whether one is satisfied with the old and and familiar or seeks newness and novelty" (p. 321).

In addition, Juster is cited suggesting that ". . . virtually everything people do, and virtually every product or service they buy, can be characterized as an investment in some future benefits. . . . People who place a great deal of value on the present and little value on the future are likely to invest less than people who weight the future more heavily" (Hawes, 1979, p. 11).

Settle et al. (1977), in their study of whether time orientation is indicative of a particular life style as measured by AIO, found that future orientation is significantly correlated with innovative behavior, whereas past orientation was found to be significantly correlated

with conservativeness and cautiousness.

Rabin (1978) argues that the temporal orientation of a person may be closely related to his developmental ability or capacity, or willingness to postpone gratification. The impulsive, the "here and now" individual is present-oriented. The planner is future-oriented and depressed, guilt-ridden is past oriented (Rabin, 1978). Rabin's (1978) study confirmed these propositions as it found that future orientation is positively related to delay gratification; and negatively related to impulsivity.

It might be concluded from the above discussion that time orientation, as a personality variable, might predict product-adoption behavior. That is, future-oriented people will tend to buy innovations which are of future benefits and delayed gratification. In contrast, present oriented-consumers would be expected to have more tendency to buy innovations which are of only current consumption and immediate gratification. However, it might be expected that past-oriented people are less likely to be willing to adopt innovations in general.

Situational Constraints: The above proposed relationships between time orientation and innovativeness, however, would be influenced by the existence of situational constraints, as behavior has been found to be a function of the interaction of person and situation

(Bowers, 1973; Monson, Hesley and Chernick, 1982).

Bowers (1973), upon his review of 11 empirical studies that evaluate the relative magnitude of person and situational influences in behavior, concluded: "obviously, and to some considerable extent, the person and the situation are codeterminers of behavior, and they need to be specified simultaneously if predictive accuracy is desired" (p. 322). Similarly, Mischel (1971) stated that, ". . . we may predict best if we know what each situation means to the individual, and consider the interaction of the person and the setting, rather than concentrating on the situation itself or on the individual in an environmental and social vacuum" (p. 149).

Following this line of thinking, Monson, Hesley, and Chernick (1982) have been concerned with specifying when personality variables can and can not predict behavior. They have proposed that traits may be useful in predicting behavior when situational constraints are weak but not when they are strong. Monson et al. (1982) tested this hypothesis in two empirical studies and it was confirmed.

Within the context of the relationship of time orientation and innovativeness, situational constraints might be hypothesized to influence this relationship. Trommsdorff and Lamm (1975) have emphasized the importance of situation in determining the impact of time orientation on decision making and behavior. Also, Summers (1971)

argues that ". . . innovativeness may be a function both of situational variables. . . and behavioral considerations. It may be that situational factors are unique to specific products and product categories and serve to constrain the individual innovativeness to particular areas, while his behavioral (sociological, psychological, etc.) makeup influences his basic tendency to innovate" (p. 316).

Consequently, it might be expected that situational constraints, e.g., reference groups, would exert significant influence on time orientation-innovativeness relationship. More specifically, it would be expected that if there is no situational constraints, or if situational constraints are weak, each kind of time orientation would cause a willingness to a particular innovation, as discussed above. However, if strong situational constraints exist (e.g., associative reference groups' influence), time orientation might not seem to influence innovativeness.

The above is an overview of the theoretical base that led to the formulation of the following hypotheses:

1. Future-oriented consumers are more likely to be innovative in comparison with past-oriented consumers.

2. Future-oriented consumers are more likely than present-, and past-, oriented consumers to be tenacious, i.e., willing to delay gratification over substantial

periods of time.

3. Past-oriented consumers are more likely than both present-, and future-oriented consumers to buy "me-too" products which are similar to the old products they favor.

4. Present-oriented consumers are more likely than future oriented consumers to favor innovations which are of current consumption and benefits.

5. Future-oriented consumers are more likely than present-oriented consumers to be willing to buy innovations which are of future benefits and delayed gratification.

6. Past-, present-, and future-, oriented consumers are less likely to differ in their innovative behavior in the presence of recommendations from associative groups.

7. Past-, present-, and future-oriented consumers are more likely to differ in their innovative behavior, as hypothesized previously, in the presence of recommendations from dissociative groups.

Method

To assess time orientation, the focus scale of the F.A.S.T. Time Orientation Test was used. Willingness to delay gratification was measured through the tenacity scale of the F.A.S.T. Test (Settle and Alreck, 1977, 1978). Innate innovativeness was measured through the

Open Processing Scale developed by Leavitt and Walton (1974). Finally, actual innovativeness was measured through behavioral intentions to buy products that vary in innovativeness on a 5-point scale with extremes labeled "Definitely would buy" and "Definitely would not buy."

The influence of situational constraints, i.e., reference groups, was measured by posing a scenario in which the subject was asked to imagine him/or herself as recommended by a liked person (i.e., associative reference groups) or by a disliked one (i.e., dissociative reference groups) to buy a certain type of the study's products (i.e., telephones and televisions) which is different from what is in his or her mind. The respondents then were asked to respond on a 5-point, behavioral intention, scale indicating his/her willingness to buy each type of telephone and television.

Consequently, there were three different versions of the questionnaire. They were similar except for the scenario section. That is, the questionnaires administered to the control group were free from the influence of reference groups' influence. The questionnaires administered to the first experimental group have included, in the scenario section, the influence of associative reference groups. And the second experimental group was administered a questionnaire whose scenario reflects the influence of associative reference

groups.

Subjects were 594 undergraduates; all of them were Marketing majors at Baruch College, CUNY. The subjects were administered the questionnaires during the regular class time.

The control group (246) subjects, which had no reference groups's influence, served two purposes (1) it was used to test the correlational hypotheses (i.e., hypothesis 1 to hypothesis 5), and (2) it served as a comparison group against which the two experimental groups were compared.

Hypotheses 1 and 2 were tested through t-tests. However, chi-square was used to test hypothesis 3 to hypothesis 7.

Results

The first and second hypotheses were supported. The data showed that future-oriented respondents did score higher than past-oriented respondents on the innovativeness scale. Similarly, future oriented respondents did score higher than both present-, and past-oriented respondents, as predicted in the second hypothesis, on the tenacity scale.

In regard to the hypotheses on the relationship between time orientation and both telephone and television preferences, hypotheses 3 and 5 were partially supported

and hypothesis 4 was not supported. hypothesis3, on the relation between past orientation and preferences for both standard telephones and standard televisions, was supported in regard to telephones, but not televisions. Similarly, hypothesis 5, on the relationship between future orientation and preferences for phonevision telephones and direct-to-home satellite televisions, was also supported in regard to telephones, but not televisions. Hypothesis 4, on the relationship between present orientation and preferences for cordless telephones and projector-screen televisions, was not supported.

The consistent rejection of hypotheses 3, 4, and 5 in regard to televisions was attributed to the working of some suppressor variables, such as respondents' income and involvement, which concealed the relationship between time orientation and televisions preference. In regard to income, the subjects of this study were students at Baruch College, CUNY. And the students at CUNY are most likely to be low income. In addition, most of these students are working on part time basis (as all students in the sample were taken from day classes). Thus, they might have perceived televisions as unaffordable, particularly the more innovative kinds, i.e., projector screen televisions and direct-to-home satellite televisions.

Another possible suppressor variable, i.e.,

respondents low involvement, was suggested. The wide spread of televisions in the United States might have resulted in decreasing the degree of arousal and the directional influence of televisions which, in turn, resulted in making television as not a particularly involving product. In addition, the respondents' low involvement in regard to televisions might also be attributed to the technological advances in televisions, since their invention is relatively insubstantial in comparison with the technological advances in telephones.

The rejection of hypothesis 4 was speculated to be due to the perceived attributes, i.e., relative advantage and compatibility, of cordless telephones and projector screen televisions. Rogers (1983) noted that: "It is the receivers' perceptions of the attributes of innovations, not the attributed as classified by experts or change agents, that affect their rate of adoption. Like beauty, innovations exist only in the eye of the beholder. And it is the beholder's perceptions that influence the beholder's behavior" (p. 212). In this regard, Ostlund (1974), in his study on the relative importance of perceived innovation attributes in predicting innovativeness, found that relative advantage and compatibility have the first and second position in the ranking (the other attributes were, in order, complexity, perceived risk, observability, and trialability).

Thus, it is possible that cordless telephones and projector-screen televisions have not been perceived by the present-oriented respondents as more advantageous than the other types and/or compatible with their needs.

The experimental hypotheses (i.e., hypotheses 6 and 7), on the influence of reference groups on the relationship between time orientation and innovativeness, were partially supported. Hypothesis 6 addresses the positivity of associative reference groups such that their presence will influence the relationship between time orientation and innovation preference to be not significant. This was supported in regard to telephones, but not televisions. For televisions, the presence of associative reference groups was influential, but it was not in the hypothesized direction, as the relationship between time orientation and innovation preference became significant.

On the other hand, hypothesis 7 addresses the negativity of dissociative reference groups such that it will not affect the relation of time orientation and innovation preference. The hypothesis was supported in regard to telephones, but not televisions. For televisions, the negativity of dissociative reference groups was operative too, as their presence did not affect the relationship between time orientation and television preference, but it was not in the hypothesized direction.

The nonsupport of both hypotheses 6 and 7 in regard to televisions was attributed to the nonsupport of the hypothesized relationships between time orientation and television preference for the control group, i.e., in the absence of reference groups' influence. That is, the relationship between time orientation and television preference for the control group was not significant, while it was hypothesized to be significant. Hence, the positivity of associative reference groups, as predicted in hypothesis 6, did affect the relationship to be significant. Similarly, the negativity of dissociative reference groups, as predicted in hypothesis 6, did not affect the relationship between time orientation and television preference, which it was originally not significant.

Conclusion and Implications

Conclusions

The most important findings of this study are concerned with relating a typology of time perception to a typology of innovation preferences. Willingness to buy new products involves time perception dimensions. In other words, consumers' time orientation does influence their innovation-adoption behaviors. More specifically, each kind of time orientation is most likely to cause a willingness to buy a particular type of innovation.

Future-oriented consumers are most likely to be willing to buy innovations which are of future benefits and delayed gratification. Past-oriented people, on the other hand, would be the least prone to buy innovations in general and they might be prone to "me-too" innovations which are similar to the old products they favor. However, no conclusion can be made now in regard to present-oriented consumer, as the hypothesis in this regard was not supported.

However, the extent to which these conclusions can be generalized is limited by (1) the two product categories, i.e., telephones and televisions, which were tested in this study, (2) the situational constraints, i.e., the influence of both associative and dissociative reference groups, that were considered to mediate the relationship between time orientation and innovation preference, and (3) the subjects of the study who were undergraduate students at Baruch College, CUNY. To generalize, various product categories should be tested; varying situational constraints would be considered; and different kinds of populations should be used.

The second important conclusion is that the predictability of time orientation, a personality variable, in regard to innovation-adoption behavior, is situational. In other words, time orientation is most likely to be useful in predicting innovative behavior in

those settings where situational pressures are weak but not when they are strong. More specifically, the presence of strong situational pressures such as the influence of associative reference groups would override the influence of time orientation on innovation-adoption behavior. But the presence of weak situational pressures such as dissociative reference groups would not affect the relationship between time orientation and innovation behavior.

Another conclusion is the confirmation of the well documented influence of associative reference groups in psychology and consumer behavior literature. "Most social psychologists consider reference groups as a person's major source of values, norms, and perspectives" (Stafford, 1971, p. 221). Venkatesan (1966) studied the influence of group pressure on consumer-decision making. It was found that individuals tended to conform to the group norm. Also, it has been found that reference groups influence shopping/purchasing patterns. In his study of in-store shopping behavior, Granbois (1968) found that multiple shopping parties made many more changes in shopping plans than did single shoppers. In another experiment which was conducted to determine whether small, informal groups influence the information of brand loyalty, Ford and Ellis (1980) found that informal groups had definite influence on their

members toward conformity behavior. Moreover, the extent and degree of brand loyalty within a group was closely related to the behavior of the informal leader.

Similarly, the results of this dissertation showed that associative reference groups did influence the respondents' innovation preferences. This influence of associative reference groups overrode the influence of time orientation.

Moreover, while most of the studies conducted to determine the influence of reference groups on consumers' and buyers' behaviors were concerned with the positivity of associative groups, this dissertation is, additionally, concerned with the negativity of dissociative groups. The results showed that the presence of dissociative reference groups' influence did not affect the respondents' innovation preference; and its negativity allowed time orientation to influence respondents' innovation-adoption behavior.

Implications

The results of this dissertation have theoretical and strategical implications for marketing researchers and managers. The theoretical implications are concerned with when personality traits are useful in predicting consumers' behaviors and when they are not. The strategical implications, on the other hand, represent

important recommendations to marketers regarding the development of marketing strategies.

Theoretical implications: Robertson and Myers (1969), in their study designed to investigate a hypothesized relationship of standardized personality traits to opinion leadership and innovative behavior, concluded that the findings of their study cast doubt on the hypothesized relationships in the product categories involved in the study. Regarding innovative behavior they stated, "One must conclude that at best personality variables as measured by a standardized normative, self-designating personality inventory, have little, if any relationship to innovative behavior among housewives in the study" (p. 167).

A similar view was expressed by Kassarian (1973, 1981) who, after an extensive review of personality studies that have been conducted in consumer research, concluded that the results can be described by a single word, "equivocal." While Kassarian cited four possible causes for the failure of personality studies to explain variation in buyer behavior, he did not consider situational constraints as possible reason of this failure.

This dissertation takes the view that the influence of personality on behavior would be moderated by the situational variables. This was confirmed in this study.

More specifically, the results have shown that time orientation, a personality trait did influence respondents' innovation preference in these setting: (1) when there were no situational constraints, i.e., the control group, and (2) when the situational pressures were weak as in the presence of dissociative reference groups' influence.

These results have two theoretical implications. First, personality traits might be of importance in predicting purchase behavior when the tested hypotheses are, as in this study, obtained from sound theoretical base. Second, the predictability of personality traits in regard to purchase behavior is conditional on the setting in which the personality operates. More specifically, personality traits are most likely to be useful in settings which are free from situational constraints or if the situational pressures are weak but not when they are strong.

Strategical Implications: The results of this study show that the three kinds of time orientation, i.e., past, present, and future orientations, provide natural bases for segmenting markets for new products. Rogers (1983) points out that one of the main users of research on the variables that determine innovativeness is to provide a basis for audience segmentation strategies by diffusion agencies. "Audience segmentation is a diffusion strategy

in which different communication channels or messages are used with each audience segment. This strategy has the advantage of breaking down a heterophilus audience into a series of relatively more homophilous subaudiences" (Rogers, 1981, p. 262).

For manufacturers, this means that when developing a new product it should be determined in advance the kind of time orientation of the target market so that the product characteristics will be consonant with the qualities of this kind of time orientation.

For diffusion agencies, on the other hand, the communication channels or messages should emphasize the new product characteristics which reflect the qualities of the time orientation of the audience. In this context, the two characteristics of relative advantage and compatibility are of concern. That is, these two characteristics should be adapted to, and emphasized in terms of, the type of time orientation of the target market. For instance, if the new product is intended to be marketed to consumers who are most likely to be future oriented, the long life and future benefits of the new product should be emphasized. That is, the new product should be compared with the competitive products (i.e., using comparative advertising) and its long life and future benefits should be crystalized so that potential consumers would perceive it as superior to existing

substitutes. Also, the long life and future benefits of the new product should be emphasized such that potential consumers perceive the new product as fulfilling their present needs and of future benefits for them.

However, if the target market is mostly composed of past-oriented consumers, the similarity of the product to the good old products should be emphasized such that potential consumers feel that the product is compatible with their values and remind them with the good old days they favor.

Thus, the new product characteristics and the qualities of potential consumers' time orientation should be congruent and they should be the cornerstone when designing the marketing mix, in general, and the promotional campaign, in particular.

Directions for Future Research

Suggestions for future research stem, mostly, from the limitations of this dissertation. These limitations, as mentioned earlier, are that only two product categories, i.e., telephones and televisions, were tested; reference groups' influences, both associative and dissociative, were the situational constraint that were considered; and undergraduate students at Baruch College were the subjects of this study. Therefore, a logical extension of this research would be related to each of

these limitations.

One such extension of this study would be to test various product categories such as houses, cars, insurance, and securities. This would help determine whether the relationship between time orientation and innovation-adoption behavior is generalized or product specific.

Another possible extension of this research is the use of varying situational constraints. Two types of situational constraints, i.e., objective situation and subjective situation, might be considered, Belk (1975) specified five groups of objective situations, physical surroundings, social surrounding, temporal perspective, task definition, and antecedent states (See Chapter II, pp. 65-66). Subjective or psychological situation has three dimensions, namely, pleasure, arousal, and dominance (Mehrabian and Russell, 1974). Each of these types of situational variables, both objective and psychological, might be investigated to determine its impact on the relationship between time orientation and innovative behavior.

A third possible extension of this dissertation is the use of different groups of subjects other than students. Income, occupation, education, age, and social class might be used as bases for such this grouping.

Finally, since time orientation is one of the basic

values provided by culture (Kluckhohn and Strodtbeck, 1961), cross-cultural replication of this study might uncover valuable insights to multinational corporations. This is possible by considering a sample which is composed of different nationalities, e.g., Hispanic, Orientals, Europeans, and studying their time orientations in relation to innovation preference and how situational constraints affects this relationship for each of these nationalities.

APPENDIX A

Cover Page and Questionnaire

(The first two pages reflect

the purchahse situation without

reference group influence)

Please fill out the attached questionnaire. This questionnaire has been developed in order to understand how people go about deciding on purchases.

Please be assured that there are no right or wrong answers. We are interested only in your own true opinions. The questionnaire is also anonymous so you need not sign your name. Thanks very much for your cooperation.

Part I

Please read the following situation carefully before answering. Place yourself into the situation and answer as you would actually do in real life.

Suppose that you have moved to a new house or an apartment and you do not have a telephone or television. You plan to purchase them. Suppose that there are three types of telephones and three types of televisions. For telephones, the three types are (1) standard dial telephones, (2) cordless telephones, and (3) phonevision telephones. The standard dial telephone looks like the phones you see in most homes. The cordless telephone is portable and pocket-size. The phonevision telephone is designed to allow the user to view, on a small screen, the other person on the phone. However, this type of telephone can not be operated at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that a substantial price increase is expected once the satellite hookup is available.

For television, the three types are (1) standard television, (2) projector screen television, and (3) direct-to-home satellite television. The standard television looks like the televisions you see in most homes. The projector screen television has a large screen (5 X 3 feet) so that the picture would be larger and clearer. The direct-to-home satellite television is equipped to receive satellite beams directly without cable and has 100 channels world-wide. However, it cannot operate at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that the availability of the product will be very limited once the satellite is in place.

Assume money is not a major concern and assume each of the above types of telephones and televisions is priced within the range you would be willing to pay:

How likely is it that you would buy each one of the following products

| | <u>Definitely would buy</u> | <u>Probably would buy</u> | <u>Might or might not buy</u> | <u>Probably would not buy</u> | <u>Definitely would not buy</u> |
|-----------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|---|
| Standard Telephone | () | () | () | () | () |
| Cordless Telephone | () | () | () | () | () |
| Phonevision Telephone | () | () | () | () | () |
| Standard Television | () | () | () | () | () |
| Projector Screen Television | () | () | () | () | () |
| Direct-to-home Television | () | () | () | () | () |

Part II

Several statements about people's opinions are listed below. Please read each one carefully and decide if such a person is exactly like you, not at all like you, or someplace in between. Decide on each statement individually, without looking ahead or thinking back to others. Each one measures a different opinion, though it may not appear so. Work quickly down the list, taking only a few seconds to decide on each statement. Your first impressions are what count. Remember, people differ a great deal in their opinions, and there are no right or wrong answers, but your own honest opinions are very important.

EXAMPLE

___ I am always in a hurry.

If this sounds exactly like you, put a 1 from the scale below in the space in front of the statement. If, on the other hand, this is not at all like you, put a 5 in the space. If this is sometimes true of you and sometimes not, choose a 2, 3, or 4 from the scale, depending on which way you lean in your opinion.

SCALE

| | | | | | | |
|---------|---|---|---|---|---|------------|
| Exactly | 1 | 2 | 3 | 4 | 5 | Not at all |
| like me | | | | | | like me |

1. ___ If I unexpectedly received a day off, I would not know what to do with the time.
2. ___ When given a new task to do, it does not do much good to try to figure out how long it will take.
3. ___ It often seems to me that there is not enough to do.
4. ___ When I am unhappy I like to look back to better days.
5. ___ I often think about the things I am going to do in the future.
6. ___ I hate following a schedule.
7. ___ I would rather get paid every week than twice a month because you get twice as many checks.
8. ___ When I read a book I like to read a little at a time.
9. ___ I dislike projects that take a long time even though they have big rewards when they are done.

SCALE

- | | Exactly
like me | 1 | 2 | 3 | 4 | 5 | Not at all
like me |
|-----|--------------------|---|---|---|---|---|--|
| 35. | ___ | | | | | | I would prefer doing several small projects than one very large one. |
| 36. | ___ | | | | | | I don't consider a job done until every last detail is finished. |
| 37. | ___ | | | | | | I like projects that have big rewards even though they may take a long time to complete. |
| 38. | ___ | | | | | | My house is full of projects that I have started but never manage to finish. |
| 39. | ___ | | | | | | Being prompt is a practice I have developed. |
| 40. | ___ | | | | | | I seldom have any idea how much time I spent on things I did yesterday. |
| 41. | ___ | | | | | | I would prefer doing one very large project than several small ones. |
| 42. | ___ | | | | | | When given a new task to do, the first thing I do is figure out how long it will take. |
| 43. | ___ | | | | | | Planning and scheduling my work is half the job. |
| 44. | ___ | | | | | | I expect my life to be better in the future than it is now or has been. |
| 45. | ___ | | | | | | No matter how hard I try, I am nearly always a little late. |
| 46. | ___ | | | | | | When I am unhappy I like to look ahead to better days. |
| 47. | ___ | | | | | | I enjoy following a schedule. |
| 48. | ___ | | | | | | Time drags. |
| 49. | ___ | | | | | | I am almost never bored. |
| 50. | ___ | | | | | | When I take a vacation, I like to just go, without having an itinerary. |
| 51. | ___ | | | | | | I like to read history. |
| 52. | ___ | | | | | | Time flies. |
| 53. | ___ | | | | | | I like to daydream about things I have done in the past. |
| 54. | ___ | | | | | | When I have just accomplished something I immediately look forward to the next step. |
| 55. | ___ | | | | | | I like to keep track of my time so I know how much time I spend on each thing I do. |
| 56. | ___ | | | | | | There are just not enough hours in the day. |
| 57. | ___ | | | | | | If I received an unexpected day off, I'd have a million things to do that day. |
| 58. | ___ | | | | | | When I have just accomplished something I like to look back to see how far I have come. |
| 59. | ___ | | | | | | On the average, time passes very slowly for me. |
| 60. | ___ | | | | | | It is more fun to take one thing at a time than to plan my day in advance. |

PART III

FORM A

Please put a number next to each statement to show if it fits with your views.

extremely very fairly not very not well
well 5 well 4 well 3 well 2 at all 1

1. I like to take a chance. _____
2. I don't like to talk to strangers. _____
3. The unusual gift is often a waste of money. _____
4. I enjoy looking at new styles as soon as they come out. _____
5. Buying a new product that has not yet been proven is usually a waste of time and money. _____
6. Often the most interesting and stimulating people are those who don't mind being original and different. _____
7. I would like a job that required frequent changes from one kind of task to another. _____
8. If people would quit wasting their time experimenting, we would get more accomplished. _____
- 9.. If I got an idea, I would give a lot of weight to what others think of it. _____
10. I like to try new and different things. _____
11. In hunting for the best way to do something it is uaually a good idea to try the obvious first. _____
12. I like to wait until something has been proven before I try it. _____
13. When it comes to taking chances, I would rather be safe than sorry. _____
14. I like people who are a little shocking. _____

Please put a number next to each statement to show if
it fits with your views.

extremely very fairly not very not well
well 5 well 4 well 3 well 2 at all 1

15. When I see a new brand on the shelf, I often
buy it just to see what it is like. _____
16. I feel that too much money is wasted on new
styles. _____
17. I often try new brands before my friends and
neighbors do. _____
18. I enjoy being with people who think like I do. _____
19. At work, I think everyone should work on only
one thing thereby becoming more of an expert. _____
20. I like to experiment with new ways of doing
things. _____
21. In the long run the usual ways of doing things
are best. _____
22. Some modern art is stimulating. _____
23. I like to fool around with new ideas even
if they turn out later to be a total waste
of time. _____
24. Today is a good day to start a new project. _____

FORM B .

Please put a number next to each statement to show if it fits with your views. . .

| | | | | |
|---------------|---------------|---------------|---------------|-----------------|
| extremely | very | fairly | not very | not well |
| well <u>5</u> | well <u>4</u> | well <u>3</u> | well <u>2</u> | at all <u>1</u> |

1. I like to experiment. _____
2. I like to try new products to see what they are like. _____
3. The changing styles especially in clothes are a waste of money. _____
4. I like a great deal of variety in my work. _____
5. I don't take changes if I don't have to _____
6. Sometimes original and different people make me uneasy. _____
7. Unless there is good reason for changing I think we should continue doing things the way they are being done now. _____
8. I start up conversations with strangers. _____
9. I feel that the tried and true ways of doing things are the best at work and in my life. _____
10. I like to spend money on unusual gifts and toys. _____
11. New products are usually gimmicks. _____
12. I generally like to try new ideas at work and in my life. _____
13. I like to see what my friends and neighbors think of a product before I try it. _____
14. I like new styles in clothes especially those that are really different. _____
15. I dread having to start another new project. _____
16. I take chances more than others do. _____

Please put a number next to each statement to show if
it fits with your views. . .

extremely very fairly not very not well
well 5 well 4 well 3 well 2 at all 1

17. I can enjoy being with people whose values are
very different from mine. _____
18. People who are shocking are usually trying to
impress someone. _____
19. In hunting for the best way of doing something,
it is usually a good idea to look at the situa-
tion from a completely different angle--one
that wouldn't occur to someone. _____
20. I would like a job that doesn't require me to
keep learning new tasks. _____
21. I like to look at strange pictures. _____
22. When I see a new brand on the shelf, I usually
pass right by. _____
23. I would not risk my position at work by
putting into effect some new idea that
might not work. _____
24. I'm the kind of person who is always looking for
an exciting, stimulating, active life. _____

9. Which of these categories best describe your **INDIVIDUAL** income before taxes?
- Under \$4,999
 - \$5,000-\$9,999
 - \$10,000-\$14,999
 - \$15,000-\$19,999
 - \$20,000-\$24,999
 - \$25,000 and over
10. Which of these categories best describes your **FAMILY** income before taxes?
- Less than \$4,999
 - \$5,000-\$9,999
 - \$10,000-\$14,999
 - \$15,000-\$19,999
 - \$20,000-\$29,999
 - \$30,000-\$49,999
 - More than \$50,000

APPENDIX B

THE PURCHASE SITUATION WITH
ASSOCIATIVE REFERENCE GROUP INFLUENCE
(These are the first two pages which were
changed in the questionnaire
administered to the first experimental
group.)

PART I

Please read the following situation carefully before answering. Place yourself into the situation and answer as you would actually do in real life.

Suppose that you have moved to a new house or an apartment and you do not have a telephone or television. You plan to purchase them. Suppose that there are three types of telephones and three types of televisions. For telephones, the three types are (1) standard dial telephones, (2) cordless telephones, and (3) phonevision telephones. The standard dial telephone looks like the phones you see in most homes. The cordless telephone is portable and pocket-size. The phonevision telephone is designed to allow the user to view on a small screen, the other person on the phone. However, this type of telephone cannot be operated at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that a substantial price increase is expected once the satellite hookup is available.

For television, the three types are (1) standard television, (2) projector screen television, and (3) direct-to-home satellite television. The standard television looks like the televisions you see in most homes. The projector screen television has a large screen (five by three feet--5' X 3') so that the picture would be larger and clearer. The direct-to-home satellite television is equipped to receive satellite beams directly without cable and has 100 channels worldwide. However, it cannot operate at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that the availability of the product will be very limited once the satellite is in place.

Now assume that you have a preference for one particular type of telephone and one particular type of television, and you actually set out to buy the two items at an electronics store. While you are in the store you run into someone you have known casually, but whom you have always particularly liked and respected. This person sees what you are about to buy and tells you that you will be making a mistake. Your acquaintance recommends that, instead, you buy a different type of telephone which is cordless and has a clock radio, and a different type of television that has a stereo speaker system

INSTRUCTIONS

Assume money is not a major concern, and assume each of the different types of telephone and television is priced within the range you would be willing to pay.

On the following scale, please indicate how likely it is that you would buy each type of telephone and each type of television.

| | <u>Definitely would buy</u> | <u>Probably would buy</u> | <u>Might or might not buy</u> | <u>Probably would not buy</u> | <u>Definitely would not buy</u> |
|-----------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|---|
| Standard Telephone | () | () | () | () | () |
| Cordless Telephone | () | () | () | () | () |
| Phonevision Telephone | () | () | () | () | () |
| Standard Television | () | () | () | () | () |
| Projector Screen Television | () | () | () | () | () |
| Direct-to-home Television | () | () | () | () | () |

APPENDIX C

The Purchase Situation With
Dissociative Reference Group Influence
(The first two pages which were changed
in the questionnaire administered to
the second experimental group.)

PART I

Please read the following situation carefully before answering. Place yourself into the situation and answer as you would actually do in real life.

Suppose that you have moved to a new house or an apartment and you do not have a telephone or television. You plan to purchase them. Suppose that there are three types of telephones and three types of televisions. For telephones, the three types are (1) standard dial telephones, (2) cordless telephones, and (3) phonevision telephones. The standard dial telephone looks like the phones you see in most homes. The cordless telephone is portable and pocket-size. The phonevision telephone is designed to allow the user to view, on a small screen, the other person on the phone. However, this type of telephone cannot be operated at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that a substantial price increase is expected once the satellite hookup is available.

For television, the three types are (1) standard television, (2) projector screen television, and (3) direct-to-home satellite television. The standard television looks like the televisions you see in most homes. The projector screen television has a large screen (five by three feet--5' X 3') so that the picture would be larger and clearer. The direct-to-home satellite television is equipped to receive satellite beams directly without cable and has 100 channels worldwide. However, it cannot operate at the present time. Before it can be used, a satellite hookup will be necessary. This hookup will be in place in one to two years. The main advantage to buying the product now is that the availability of the product will be very limited once the satellite is in place.

Now assume that you have a preference for one particular type of telephone and one particular type of television, and you actually set out to buy the two items at an electronics store. While you are in the store you run into someone you have known casually, but whom you have never particularly liked and respected. This person sees what you are about to buy and tells you that you will be making a mistake. Your acquaintance recommends that, instead, you buy a different type of telephone which is cordless and has a clock radio, and a different type of television that has a stereo speaker system.

INSTRUCTIONS

Assume money is not a major concern, and assume each of the different types of telephone and television is priced within the range you would be willing to pay.

On the following scale, please indicate how likely it is that you would buy each type of telephone and each type of television.

| | <u>Definitely</u> would buy | <u>Probably</u> would buy | <u>Might or</u> might not buy | <u>Probably</u> would not buy | <u>Definitely</u> would not buy |
|-----------------------------------|-----------------------------------|---------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|
| Standard Telephone | () | () | () | () | () |
| Cordless Telephone | () | () | () | () | () |
| Phonevision Telephone | () | () | () | () | () |
| Standard Television | () | () | () | () | () |
| Projector Screen Television | () | () | () | () | () |
| Direct-to-home Television | () | () | () | () | () |

REFERENCES

- Ajzen, I. and Martin Fishbein. Understanding Attitudes and Predicting Social Behavior. New Jersey: Prentice-Hall, Inc., 1980.
- Babbie, Earl. The Practice of Social Research. California: Wadsworth Publishing Company, 1983,
- Belk, R.W., "Situational Variables and Consumer Behavior," Journal of Consumer Research, Vol. 2 (December, 1975), p. 157.
- _____, "An Exploratory Assessment of Situational Effects in Buyer Behavior," Journal of Marketing Research, Vol. XI (May 1974), p. 156-163.
- Bell, W.E., "Consumer Innovators: A Unique Market for Newness," in S.A. Greyser, ed., Toward Scientific Marketing. Chicago: American Marketing Association, 1963, pp. 85-95.
- Boone, L.E., "The Search for the Consumer Innovator," Journal of Business, Vol. 43 (1970), 135-140.
- Bowers, Kenneth, S. "Situationism in Psychology: An Analysis and A Critique," Psychological Review, Vol. 80 (September, 1973), pp. 307-336.
- Budner, S. "Intolerance of Ambiguity as a Personality Variable," Journal of Personality, Vol. 30 (1962) pp. 29-50.
- Campbell, D.T. and J.C. Stanley, Experimental and Quasi-Experimental Designs for Research. III: Rand McNally College Publishing Company, 1963.
- Chatterji, C.S.: R.D. Lansdale; and S.F. Stasch, "New-Product Development: Theory and Practice," in B.M. Enis and K.J. Roering, eds., Review of Marketing 1981. Chicago: American Marketing Association, 1981, pp. 143-157.
- Calabresi, R. and J. Cohen, "Personality and Time Attitudes," Journal of Abnormal Psychology, Vol 73 (1968) pp. 431-439.

- Coleman, J.S., E. Katz, and H. Menzel, Medical Innovation: A Different Study. Indianapolis: The Bobbs-Merrill Co., 1966.
- Cook, T.D. and D.T. Campbell, Quasi-Experimentation: Design and Analysis Issues for Field Settings. New Jersey: Houghton Mifflin Company, 1979.
- Cottle, T.J. and Klineberg, S.L. The Present of Things Future. New York: The Free Press, 1974.
- Cottle, Thomas J. Perceiving Time: A Psychological Investigation with Men and Women. New York: John Wiley & Sons, Inc., 1976.
- Cox, D.F. "The Audience As Communicators," in S.F. Greysey (ed.), Toward Scientific Marketing. Chicago: American Marketing Association, 1963, pp. 58-72.
- Daniel, W.W. Applied Nonparametric Statistics. New Jersey: Houghton Mifflin Company, 1978.
- _____, and J.C. Terrell. Business Statistics: Basic Concepts and Methodology. New Jersey: Houghton Mifflin Company, 1979.
- Dalrymple, D.J.: T.S. Robertson; and M.Y. Yoshins, "Consumption Behavior Across Ethnic Categories," California Management Review, Vol 14 (1971), pp. 65-70.
- Dichter, E., "How Word-of-Mouth Advertising Works," Harvard Business Review, Vol. 44 (November-December, 1966), pp. 147-167.
- Emery, D.R., "Belief System and Consumer Innovative Proneness," in Olson, J.C., ed., Advances in Consumer Research. Vol. VII (Ann Arbor: Association for Consumer Research, 1979), pp. 737-740.
- Engel, J.F.: D.A. Knapp; and D.E. Knapp, "Sources of Influence in the Acceptance of New Products for Self-Medication: Preliminary Findings," in Raymond M. Hass, ed., Science, Technology, and Marketing. Chicago: American Marketing Association, 1966. pp. 776-782.

- _____ ; D.T. Kollat, and R.D. Blackwell. "Personality Measures and Market Segmentation," Business Horizons, Vol. 12 (June, 1969), pp. 61-70.
- _____, Consumer Behavior. New York: Holt, Rinehart & Winston, 1973,
- _____ and R.D. Blackwell, Consumer Behavior; New York: The Dryden Press, 1982.
- Fennell, G., "Consumers' Perceptions of the Product-Use Situation," Journal of Marketing, Vol. 42 (April, 1978), pp. 38-47.
- Ford, J.D. and E.A. Ellis, "A Reexamination of Group Influence on Member Brand Preferences," Journal of Marketing Research, Vol. 17 (February, 1980), pp. 125-132.
- Fraser, J.T. "The Interdisciplinary Study of Time," Annals of the New York Academy of Science, Vol. 138 (February 1967), pp. 822-247.
- Grabis, D.H. "Improving the Study of Customer In Store-Behavior," Journal of Marketing, Vol. 32 (October, 1962). pp. 30-37.
- Graham, Robert J. "The Role of Perception of Time in Consumer Research," Journal of Consumer Research, Vol. 7 (March 1981), pp. 335-342.
- Hage, Jearald. Techniques and Problems of Theory Construction in Sociology. New York: John Wiley & Sons, Inc. 1972.
- Hallowell, Irving A. Culture and Experience (Pennsylvania: University of Pennsylvania Press, 1955).
- Hansen, F. Consumer Choice Behavior: A Cognitive Theory. New York: Free Press, 1972.
- Hawes, Dougals K., Sigmind Gronoms, and John Arndt. "Shopping Time and Leisure Time: Some Preliminary Cross-Cultural Comparisons of Time Budget Expenditures," in H. Keith Hunt, Ed., Advances in Consumer Research, Vol. V. Ann Arbor: Association for Consumer Research, Vol. V. Ann Arbor: Association for Consumer Research, 1978, pp. 151-159.

- _____. "Time and Behavior," in O.C. Ferrell; S.W. Brown, and C.W. Lamb, eds., Conceptual and Theoretical Development in Marketing. Chicago: American Marketing Association 1979a, pp. 281-295.
- _____. "Time and Theories of Consumer Behavior." The University of Wyoming, Institute for Policy Research, Research Paper No. 270. (January, 1979b).
- Hicks, C.R. Fundamental Concepts in the Design of Experiment. New York: Holt, Rinehart and Winston, 1973.
- Hirschman, Elizabeth, C. "Innovativeness, Novelty Seeking, and Consumer Creativity," Journal of Consumer Research, Vol. 7 (December 1980), pp. 283-295.
- Howard, J.A. Marketing: Executive and Buyer Behavior. New York: Columbia University Press, 1963.
- Insko, C.A. and J. Schopler. Experimental Social Psychology. New York: Academic Press, 1972.
- Juster, F.T. "The Investment of Time by U.S. Households: An Initial View." Ann Arbor: The University of Michigan, Institute for Social Research. (Paper Presented at the American Psychological Association Convention, Toronto, (August, 1978).
- Kakkar, P. and R.J. Lutz, "Toward a Taxonomy of Consumption Situations," In Combined Proceedings Chicago: American Marketing Association, 1975. pp. 206-210.
- _____. "Situational Influence on Consumer Behavior: Review." In H.H. Kassarian and T.S. Robertson, eds., Perspective in Consumer Behavior. Illinois: Scott, Foresman and Company, 1981, pp. 204-214.
- Kegerreis, R.J.; J.F. Engel; and R.D. Blackwell, "Innovativeness and Diffusiveness: A Marketing View of the Characteristics of Earliest Adopters," in D.T. Kollat, R.D. Blackwell, and J.F. Engel. Research in Consumer Behavior. New York: Holt, Rinehart & Winston, Inc., 1970, pp. 671-689.
- Kerlinger, F.N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1973.
- Kluckhohn, Florence R. and F.L. Strodbeck. Variations in Value Orientations. Connecticut: Greenwood Press, 1961.

- Krugman, H.E. "The Impact of Television Advertising: Learning Without Involvement," Public Opinion Quarterly, Vol. 29 (Fall 1965), pp. 349-356.
- Lager, E. and I. Zwerling, "Time Orientation and Psychology in the Ghetto," American Journal of Psychiatry, Vol. 137 (March 1980), pp. 306-309.
- Lavidge, R.J. "The Cotton Candy Concept: Intra-Individual Variability," in Lee Adler and Irving Crespi, eds., Attitude Research at Seen. Chicago: American Marketing Association, 1966, p. 39-50.
- Lawton, L. and L. Parasurman, "The Impact of the Marketing Concept of New Product Planning," Journal of Marketing, Vol. 44 (Winter, 1980), 19-25.
- Leavitt, C. and J. Walton, "Development of a Scale for Innovativeness," in Schlinger, M.J., ed., Advances in Consumer Research. Association for Consumer Research, Vol. 2, 1974.
- _____, "The Open Processing Scale: A Measure of Innovative Cognitive Style," A Working Paper. The Ohio State University. 1984.
- Lehman, H.E., "Time and Psychopathology," Annals of the New York Academy of Science, 138 (February, 1967), pp. 798-821.
- Leigh, J.H. and C.R. Martin, Jr. "A Review of Situational Influence Paradigms and Research," in Ben M. Enis and Kenneth J. Roering, eds., Review of Marketing 1981 (Chicago: American Marketing Association, 1981), pp. 57-74.
- LeShan, L.L. "Time Orientation and Social Class," Journal of Abnormal and Social Psychology, Vol. 47 (1952), pp. 589-592.
- Luscher, Kurt, K. "Time: A Much Neglected Dimension in Social Theory and Research," Sociological Analysis and Theory, Vol. 4 (October 1974), pp. 101-116.
- Lutz, R.J., and P. Kakkar. "The Psychological Situation as a Determinant of Consumer Behavior," in Advances in Consumer Research, Vol. 2, Edited by M.J. Schlinger, Chicago: Association for Consumer Research, 1975, pp. 439-454.

- Marcus, B.H. and E.M. Tauber, Marketing Analysis and Decision Making. Mass.: Little, Brown and Company, 1979.
- McGuire, W.J. "Psychological Factors Influencing Consumer Choice." in Robert Ferber, ed., Selected Aspects of Consumer Behavior. Washington, D.C.: U.S. Government Printing Office, 1977 (NSF/RANN Program)
- _____, "Psychological Motives and Communication Gratification," in J.G. Blumler and E. Katz, eds., The Uses of Mass Communication: Current Perspectives on Gratification Research (Beverly Hills: Sage Publications, 1974).
- Mead, R.D. "Future Time Perspectives of College Students in America and in India," Journal of Social Psychology, Vol. 83 (1971), pp. 175-182.
- Mehrabian, A., and J.A. Russell. An Approach to Environmental Psychology. Cambridge, Mass: M.I.T. Press, 1974.
- Midgley, D.F. "A Simple Mathematical Theory of Innovative Behavior," Journal of Consumer Research, Vol. 3 (1976), 31-41.
- _____. Innovation and New Product Marketing, New York: Halsted Press, John Wiley & Sons, Inc., 1977.
- _____ and G.R. Dowling. "Innovativeness: The Concept and Its Measurement," Journal of Consumer Research, Vol. 4 (March 1978), pp. 229-242.
- Mischel, W. Introduction to Personality (New York: Holt, Rinehart and Winston, 1971).
- _____, "Toward a Cognitive Social Learning Reconceptualization of Personality," Psychological Review, Vol. 80 (1973), pp. 252-283.
- _____, "The Interaction of Person and Situation," in D. Magnusson and N.J. Endler, eds., Personality at the Crossroads: Current Issues in Interactional Psychology, N.J.: Erlbaum, 1977.

- _____, "Processes in Delay of Gratification," in L. Berkowitz, ed., Advances in Experimental Social Psychology. Vol. 7, New York: Academic Press, 1974.
- _____, E. Ebbesen, and A.R. Zeiss, "Selective Attention to the self: Situational and Dispositional Determinants," Journal of Personality and Social Psychology, vol. 27 (1973), pp. 129-142.
- Mitchell, A.A., "Involvement: A Potentially Important Mediator of Consumer Behavior," in William L. Wilki (ed.), Advances in Consumer Research, Vol. 6, Association for Consumer Research, Ann Arbor, Mi. 1981, pp. 25-30.
- Monson, T.C.: J.W. Hesley, and L. Chernick, "Specifying When Personality Traits Can and Cannot Predict Behavior: An Alternative to Abandoning the Attempt to Predict Single-Act Criteria," Journal of Personality and Social Psychology, Vol. 43, (1982), pp. 385-399.
- Myers, J.G. "Patterns of Interpersonal Influence in the Adoption of New Product," in R.M. Maas, ed., Science, Technology, and Marketing. Chicago: American Marketing Association, 1966, pp. 750-757.
- Neter, John and W. Wasserman, Applied Linear Statistical Models. III.: Richard D. Irwin, Inc., 1974.
- Nowotny, H. "Time Structuring and Time Measurement: On the Interrelation Between Timekeepers and Social Time," in J.T. Fraser and N. Lowerance, eds., The Study of Time II. New York: Springer-Verlag, 1975. pp. 325-342.
- Ornstein, Robert E. On the Experience of Time. (Baltimore, Md.: Penguin Books, Inc., 1969.
- Ostlund, L. "Diffusion: A Dynamic View of Buyer Behavior," in J.A. Howard and L.E. Ostlund, eds., Buyer Behavior: Theoretical and Empirical Foundations. New York: Alfred A. Knopf, 1973; pp. 401-523.
- _____, "Perceived Innovation Attributes as Predictors of Innovativeness," Journal of Consumer Research, Vol. 1 (1974), pp. 23-29.

- Pizman, A., "Psychological Characteristics of Innovators,"
- European Journal of Marketing, Vol. 6 (1972), pp.
203-210.
- Rabin, A.I. "Future Time Perspective and Ego Strength."
in J.T. Fraser, N. Lawrence, and D. Park, eds.,
The Study of Time III New York: Springer-Verlag.
1978, pp. 294-306.
- Rezhazy, R. "The Concept of Social Time: Its Role
in Development," International Social Science
Journal, Vol. 24 (1972), pp. 26-36.
- Robertson, T.S., "The Process of Innovation and the
Diffusion of Innovation." Journal of Marketig,
Vol. 31 (January 1967), pp. 14-19.
- _____, "Determinants of Innovative Behavior,"
Proceedings of the 1967 Educators' Conference.
Chicago: American Marketing Association, pp.
328-332.
- _____, "Communication and Influence," a paper
presented at the National Conference of the
American Marketing Association, Washington, D.C.
1967.
- _____, Innovative Behavior and Communications,
New York: Holt Rinehart & Winston, 1971.
- Robinson, J.P. and P.R. Shaver. Measures of Social
Psychological Attitudes. Michigan: The Institute
fo Social Research, 1973.
- Rogers, E.M. Diffusion of Innovation, 3rd Ed. New
York: The Free Press, 1983.
- _____, and F.F. Shoemaker, Communication of In-
novations, 2nd Ed. (New York: The Free Press,
1971).
- _____, and J.D. Stanfield, "Adoption and Diffusion
of New Products: Emerging Generalizations and
Hypotheses," in F.M. Bass, C.W. King, and E.A
Pessemier, eds., Application of the Sciences
in Marketing management. New York: John Wiley
& Sons, Inc., 1968, pp. 227-250.

- Rosenberg, Morris. The Logic of Survey Analysis. New York: Basic Books, Inc., 1968.
- Sandell, R.G. "Effects of Attitudinal and Situational Factors on Reported Choice Behavior," Journal of Marketing Research, Vol. 5 (1968) pp. 405-408.
- Schiffman, L. Communication and Experience: The Acceptance of a New Food Product by Elderly Consumers Living in Geriatric Housing. (Unpublished Doctoral Dissertation: Baruch College, CUNY, 1971).
- _____. "Perceived Risk in New Product Trial by Elderly Consumers," Journal of Marketing Research, Vol. 9 (February 1972), pp. 106-108.
- _____. "Social Interaction Patterns of the Elderly Consumer." In Boris W. Becker and Helmut Becker, Eds., Marketing Education and the Real World. Chicago Ill.: American Marketing Association, 1973, pp. 106-108.
- _____ et al. "The Role of Mass Communication, Salesmen and Peers in Institutional Buying Decisions." In Ronald C. Curhan, Ed., Marketing's Contribution to the Firm and to Society. Chicago, Ill.: American Marketing Association, 1975, pp. 487-491.
- _____ and Leslie L Kanuk. Consumer Behavior. New Jersey: Prentice-Hall Inc., 1983.
- Schneider, L. and S. Lyssgard. "The Deferred Gratification Pattern: A Preliminary Study," American Sociological Review, Vol. 18 (1963), pp. 143-149.
- Settle, Robert B. "A Discussion of "Time" Research," in J.C. Olson, ed., Advances in Consumer Research, Vol. VII, (Ann Arbor: Association for Consumer Research, 1980), pp. 448-450.
- _____ and Pamela L. Alreck. "Time Orientation and Consumer Attitudes," in B.A. Greenberg, and D.H. Bellenger, eds., Contemporary Marketing Thought. 1977 AMA Educators Proceedings, Series #41. Chicago: American Marketing Association, 1977, p. 520.

- _____, _____, and Michael A. Belch, "F.A.S.T.: A Standardized Measure of Temporis," Proceedings of the Consumer Psychology Annual Convention of the American Psychological Association. Los Angeles, Calif., 1981a.
- _____, _____, and J.W. Glasheen, "Individual Time Orientation and Consumer Life Style," in H.K. Hunt, eds., Advances in Consumer Research, Vol. V. Ann Arbor: Association of Consumer Research, 1978, pp. 315-319.
- _____, M.A. Belch, and P.L. Alreck, "Temporic Effects on Opinion Leadership, Brand Loyalty, and Perceived Risk." Proceedings of the 1981 Marketing Educator Conference of the American Marketing Association, Washington, D.C. 1981b.
- Sheth, J.N., "Word-of-Mouth in Low-Risk Innovations," Journal of Advertising Research, Vol. II (June, 1971), pp. 15-18.
- _____. Multivariate Methods for Market and Survey Research, Ill.: American Marketing Association, 1981.
- Siegel, Sidney. Nonparametric Statistics for Behavioral Sciences. New York: McGraw-Hill Book Company, 1956.
- Stafford, J.E. "Effects of Group Influence on Consumer Brand Preference," in R.J. Holloway, R.S. Mittelstead, and M. Venkatesan, eds., Consumer Behavior: Contemporary Research in Action. New York: Houghton Mifflin Company, 1971, pp. 213-219.
- Summers, J.O. "Generalized Change Agents and Innovativeness," Journal of Marketing Research, Vol. 8 (1971), pp. 313-316.
- _____, "Media Exposure Patterns of Consumer Innovators," Journal of Marketing, Vol. 36 (1972), pp. 43-49.
- Tabachnick, B.G. and L.S. Fidell. Using Multivariate Statistics, New York: Harper and Row, Publishers, 1981.

- Teahan, J.E. "Future Time Perspective, Optimism and Academic Achievement," Journal of Abnormal and Social Psychology, Vol. 6, (1970) pp. 479-509.
- Trommsdorff, G. and H. Lamm. "An Analysis of Future Orientation and Some of its Social Determinants." in J.T. Fraser and N. Lawrence, eds., The Study of Time II. New York: Spring-Verlag, 1975, pp. 343-361.
- Venkatesan, M. "Experimental Study of Consumer Behavior Conformity and Independence," In R.H. Holloway, R.A. Mittelstead, and M. Venkatesan, eds., Consumer Behavior: Contemporary Research in Action. New York: Houghton Mifflin Company, pp. 213-219.
- Wells, W.D. and A.D. Beard, "Personality and Consumer Behavior," in S. Ward and T.S. Robertson, eds., Consumer Behavior: Theoretical Sources (N.J.: Prentice-Hall, 1973), PP. 141-199.
- Witt, R.E. "Informal Social Group Influence on Consumer Brand Choice," Journal of Marketing Research, Vol. 6 (November 1969), 473-476.
- _____ and G.D. Bruce, "Purchase Decision and Group Influence," Journal of Marketing Research, Vol. 7 (November 1970), 533-535.
- Zaltman, G. and R. Stiff, "Theories in Diffusion," in S. Ward and T.S. Robertson, eds., Consumer-Behavior: Theoretical Sources. New Jersey: Prentice-Hall, 1973, 416-468.