GAINS AND LOSSES IN INTERTEMPORAL

CHOICE: THEORETICAL FRAMEWORK

AND IMPLICATIONS FOR

PROMOTIONAL

STRATEGY

By

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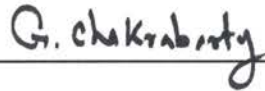
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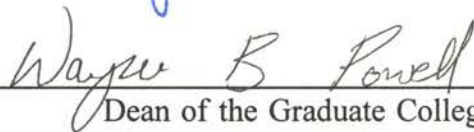_John C. Mowen_
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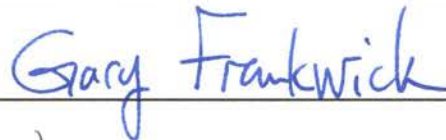
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CHAPTER 1

INTRODUCTION

The Present, therefore, has several dimensions: ...the present of things past, the

present of things present, and the present of things future.

St. Augustine's words (Fraisse 1963)

The element of time permeates marketing promotions. For example,

promotional campaigns often include such enticements as "buy now, payment begins in

ninety days," "buying insurance now can save you later," and "our company promises

fast, dependable service." Time also plays a critical role in determining customer

satisfaction. Thus, consumers can face disappointment when they are planning on

being seated immediately in a movie, restaurant, or airplane but are told that the

service will be delayed. These consumers must decide between going elsewhere or

simply waiting (either with or without compensation) for service delivery.

In the context of marketing promotions, the payment and receipt of

goods/services are two common consumption activities. Advertisements often

encourage consumers to delay payments ("Make no payment until next year"), to

advance payments ("Extra 10% off for immediate payment"), or to advance a receipt

("For an additional $6.95 per item, your package can arrive in just 3 business days!").

Marketing promotions can also result in the delayed delivery of advertised

goods/services (delayed receipts) and the necessity of compensating consumers who

must wait (rainchecks for out of stock merchandise or a free soda to those who must wait in line for a long time). Following Benzion, Rapaport, and Yagil's (1989) four scenarios in a debt repayment/salary receipt setting, the present work has identified four parallel conditions occurring in a promotional context: (1) delaying losses or payments (gains); (2) advancing losses or payments (losses); (3) delaying gains or receipts (losses); and (4) advancing gains or receipts (gains).

Clearly, examples of expediting or delaying payments and receipts across varying time periods exist in a marketing context and have implications for planning marketing and promotional strategy. Because the temporal component is so often a part of any promotional campaign, it is important to understand how and why these effects occur.

Time has received attention in the marketing literature (e.g., Jacoby et al. 1976; Settle and Alreck 1991; Bergadaa 1990; Lusch et al. 1992; Hornik 1993). Researchers have studied time relative to an array of topics important to consumer behavior including shopping orientations (Gentry et al. 1991), involvement and temporal distance (Meyers-Levy and Maheswaran 1992), life-style patterns (Settle and Glasheen 1978), time scarcity (Gross 1987), and culture (Ko and Gentry 1991). The marketing literature has examined time and decision making (see Mowen and Mowen 1991; Marshall, Mowen and Stone 1995; Greenleaf and Lehmann 1995; Leclerc et al. 1995). Thus, the importance of this construct in the study of consumer behavior has been recognized.

Time runs throughout the promotional literature. For example, the influence of time has been studied in advertising (Meyers-Levy and Maheswaran 1992; Deighton

et al. 1994), television commercials (Singh and Cole 1993), coupon redemption (Inman and McAlister 1994), and personal selling (Amyx and Mowen 1995).

While these studies have contributed to our understanding of the temporal factor in a promotional setting, to date, no marketing research has been conducted that comprehensively investigates how time influences consumer valuations of decision outcomes in a promotional context. The present work seeks to address this lacunae by examining the impact of time delay, framing of the consumer decision (advancing/delaying payments/receipts), and the moderating impact of individual differences on outcome valuation.

Research Questions

The aforementioned literature suggests that the notion of time permeates the promotional literature and has an impact upon consumer behavior. Because the temporal component is so often a part of any promotional campaign, it is critical to understand how and why this element influences consumer behavior. Therefore, the dissertation builds upon and extends previous work by posing three research questions:

1. Are there individual differences in time horizon relative to payments and receipts of consumer goods?

2. In a promotional setting, how does the postponing/expediting of payments and receipts of goods at varying temporal distances from the consumer's decision influence the valuation of these decision outcomes?

3. Do individual differences (i.e., locus of control, impulsivity, age, and income) moderate these valuations?

Research Goals

The dissertation has four major goals. First, the dissertation reviews the following literatures as they relate to time: (1) marketing literature; (2) the behavioral decision theory literature; (3) impulsivity; (4) locus of control; (5) time orientation; and (6) demographics. Second, the present work seeks to advance previous literature by proposing a comprehensive theory of time that serves as a mechanism for explaining the effects of temporal variations of outcomes on consumer valuations in a promotional context. Third, the dissertation empirically tests the factors of delay/advancement of payments/receipts, time delays, and individual differences on valuations of outcomes. Fourth, the dissertation discusses the results and offers explanations for why some promotional approaches are more or less effective based on the application of temporal distances.

Managerial and Academic Contributions

The dissertation makes several contributions, including the development of a time horizon scale, insights into the valuation of consumer decision outcomes, and the explication of individual differences in outcome valuation. These contributions are detailed below.

Scale Development

Various scales have previously been developed in the psychology and consumer behavior literatures to measure time orientation, giving evidence of the importance of this construct. These scales offer much in the way of understanding and measuring future and present-time orientations. However, they do not permit evaluation of time orientation relative to payments and receipts at different points in time in a consumer

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exchange context. Thus, a vital contribution is the development and validation of such a time-orientation scale.

Valuation of Outcomes

The value of outcomes is diminished with the passage of time (Price 1993). Marketers are concerned with this diminishing of value over time. For example, some promotions urge consumers to "buy now with no payment for x days." The success of such a promotion is related to how consumers value delaying a payment for a given period of time. The results of the proposed research have important implications for academicians and managers alike. An offer that is for "a limited time only" supposes that consumers will value the present receipt of that good enough to take action immediately.

For managers, an understanding of the function of consumer discounting of outcomes across time periods aids them in making sound decisions relative to promotional planning (such as offering incentives in an ad campaign designed to prompt the consumer to buy now and pay later), segmentation (for example, present-oriented segments of the population may be more persuaded by appeals to purchase now and pay later whereas this may be inappropriate for future-oriented individuals), developing attractive time-payment plans, planning successful mail-order campaigns, offering discounts for pre-payment, and providing bonuses to the consumer who must wait for delivery of a service or consumer good beyond the expected wait time.

For the academician, an understanding of the discounting of positive and negative consumer outcomes across time periods extends our understanding of an array of consumer decision-making phenomena (e.g., impulsivity, speed-up costs, risk

aversion and seeking, delay of gratification, and reactance) beyond an often simplistic and limited consideration of outcomes occurring only in the present.

One study explicitly addressed the delaying/expediting of payments or receipts on valuations across time periods. The Benzion et al. (1989) study explored student valuations of monetary outcomes (delaying/expediting of losses/gains) across time in a debt-repayment situation and a salary-receipt scenario. These researchers called for the study of not only monetary outcomes but "...real consumption goods" (page 283). To that end, an experiment is conducted that closely follows the Benzion et al. (1989) study but will take place in a marketing context. No differences in valuations are anticipated between outcomes involving money and outcomes involving consumer products.

Individual Differences

In an important work that examined individual discount rates over time delay, cash amounts, and delaying/expediting losses and gains, Benzion et al. (1989) found significant correlations between individual discount rates both within and between the advance/delay a gain/loss scenarios. The existence of "...large individual differences in the implicit discount rate" support their assumption "...that the subjects' responses in the present study reflected individual utilities rather than merely an interest rate (which is uniform)" (pages 282-283). Benzion et al. (1989) asserted that subjective discount rates depend on factors that determine marginal rates of substitution between current and future consumption situations. These factors may include individual time preferences, such as short-term orientation or long-term orientation. These researchers called for additional work to more finely distinguish between individual utility based

and financial market explanations. The dissertation seeks to address this call for the study of individual differences in implied discount rates by explicitly examining individual differences that mold the individual utility function.

The relationship between individual predispositions, time, behavior, and values has been noted (Doob 1971). Differences in valuations of consumer outcomes and subsequent behaviors are clearly important to both academicians and practitioners. The academician can achieve a fuller understanding of the consumer decision process through research that delineates differences in individual utility functions. For the practitioner, promotional campaigns designed for different demographic segments should appeal to the dominant valuation patterns of the group. Clearly, then, there is need for an examination of individual differences in regard to the matter of time and the valuation of outcomes. Four individual difference variables are examined: (1) demographic variables; (2) time horizon; (3) impulsivity; and (4) locus of control.

Overview of the Research Plan

Chapter I contains introductory remarks, the intentions of the research, the managerial and academic contributions, and an overview of the dissertation. The literature review in Chapter II examines the time construct in the marketing discipline and related literatures. It considers research involving time use/allocation, antecedent/consequent role of time, time perception/orientation, and time and decisions. Chapter III outlines the theoretical framework for the dissertation, the Time and Outcome Valuation Model (Mowen and Mowen 1991). This model describes the influence of time on the valuation of losses and gains. The model incorporates

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concepts from prospect theory (Kahneman and Tversky 1979), approach-avoidance conflict theory (Miller 1959), and the discounted utility theory (Koopmans 1960).

Chapter IV describes Study I. This study examines the literature relative to the measurement of time orientation and develops and validates a scale that can assess individual differences in time orientation in a marketing context.

Chapter V outlines Study II. Study II is a conceptual replication and extension of the Benzion et al. (1989) research. While the Benzion et al. (1989) study asked students to provide valuations of monetary outcomes at different time delays, cash flows, and scenarios (postponing/expediting of receipts or payments), the study described in Chapter V takes place in a marketing context with a consumer good. This study extends the Benzion et al. (1989) work by explicitly examining individual differences in outcome valuation. Study II is also designed to assess external validity and establish dimensionality and internal consistency for the time horizon scale developed in Study I.

CHAPTER II

LITERATURE REVIEW

Introduction

The literature review has three primary objectives and is organized according to those objectives. The first objective is to provide an overview of time in the marketing literature. The second objective of the literature review is to examine discounted utility, behavioral decision theory, and the marketing literatures relative to time and decisions. The third and final objective is to explore the time orientation, impulsivity, and locus of control literatures relative to their relation to the valuing of both positive and negative outcomes across time.

For man, time is "...supremely and intimately related to the conduct of his life" (Kummel 1966). When viewed through an ontological lens, the notion of time gives rise to an unrelenting curiosity about its expression in the human experience. Alverson (1994) noted the following views on the matter: (1) Kant's proposition of the subjectivity of time that is based in the mental realm; (2) the positivist scientist's objectively measurable approach to time; (3) relativistic anthropology's view of time as deriving from myth; and (4) Alverson's proposition that time possesses the property of a commonly experienced "mental experience." The present work assumes Kant's subjectivity in examining man's valuation of varying outcomes over an objectively stated measure of time. Working from this assumption, time is an arbitrary experience

that springs from a person's existence within a culture (Sturt 1925). As such, time is viewed as an individual construction of the reality of an inescapable temporal constraint.

The contours of man's temporal and physical existence is delineated by the present moment in which he/she exists. However, within that framework of individual limitation exists the capability to recall events of the past, to relive those events, and to reposition their consequences in one's vista. And, amazingly, even though future events cannot be 'lived' in the present, prefigurations of things to come have the capacity to move one to immediate action in the present and can simultaneously coexist with memories of the past and thoughts of the present (Doob 1971).

It is not a new idea that the cognizance of time can move one to action or otherwise impact behavior (Doob 1971). Indeed, the events of life are bonded together with the resinoid qualities of time. Events may have taken place in the past; they may be occurring in the present time; life's events may assume an anticipatory position because of their temporal delay. Many events in life stem from decisions that individuals must make that impact outcomes in the present or in the future; it is conceivable that one can make a decision relative to past occurrences as well. Specific to the interests of the present research, consumers as well as managers make many decisions in the marketplace. These decisions can result in outcomes that occur at different points in time. It is clear that the concept of time is pervasive and permeates all aspects of life, including consumer and managerial decisions.

The time literature in the area of consumer behavior is extensive, and numerous scholars have offered various descriptions of these studies. According to Hornik (1993), investigations of time are concerned with three dimensions: (1) time

allocation/behavior; (2) time perception; and (3) time orientation. Jacoby, Szybillo, and Berning (1976) reviewed and synthesized the time literature from a variety of disciplines including economics, sociology, and marketing. These authors posed three assumptions underlying the study of time: (1) time is limited and thus has value; (2) individuals constantly utilize time and it cannot be carried forward; and (3) time can exist as a cause or an effect in the field of consumer behavior. Hirschman (1987) has named three approaches to time in economics, sociology, social-psychology, and psychology. Economics focuses on the objective aspects of time; sociology studies the cultural dimensions of time at the macro level; social-psychological literature examines time relative to lifestyle; and, the field of psychology is interested in individual differences in time perception and orientation.

While these dimensions and underlying assumptions contribute to organizing the time literature, the present review organizes the relevant literature based on historical contributions to philosophical thought on the notion of time (see Table I). The body of ideas dealing with time in philosophy is vast due in part, if not in totality, to the enormous complexity of the subject (see Benjamin 1966 for further discussion on ideas about time and a chronology of philosophers who contributed to historical thought on time; the categorization of time studies in the text below was inspired from this work).

Because of the universality of the notion of time, its philosophical transference across domains of knowledge is evident. Its emergence as a construct of interest in the field of marketing is reflective of the intellectual genealogies from which it stems. The ideas of Locke (1632-1704) about the succession and duration of time foreshadowed studies concerned with the allocation and use of time. The concept that

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time or temporal factors can concomitantly vary with events or behaviors is examined in studies that examine various aspects of the antecedent and consequent roles played by the element of time in consumer behavior. The notion of an inner, subjective time, with roots germinated in the early work of Henri Pieron, has inspired studies related to perceptions of time and the individual difference variable, time orientation. Bergson's (1859-1941) argument that an individual's decisions regarding future alternatives are ensconced in the personality is echoed in studies about time and consumer decisions. Thus, the following classification scheme contains studies from four areas: (1) allocation and use of time; (2) antecedent/consequent role of time; (3) time perceptions and orientation; and (4) time and decisions.

Implicit in such a cataloguing scheme is the fact that the aforementioned categories of time are inherently interwoven. Some studies exist at the confluence of more than one category; however, for the sake of parsimony, the studies that are reviewed will be placed in the category that represents the dominant theme or purpose for the study. The first three categories play a peripheral role in the development of the present research; they are more briefly reviewed in order to demonstrate the importance of time in consumer research (see Table II). Time is a ubiquitous factor, and as such, it is key in understanding many aspects of consumer behavior, from shopping patterns to attributes of service providers. The ensuing review of the literature highlights the crucial role played by this variable. The last category, time and decisions, is reviewed in depth as this literature is fundamental to the present study (see Table III). Finally, the time orientation, impulsivity, and locus of control literatures is reviewed.

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TABLE I

ORGANIZATION OF THE TIME LITERATURE

MAJOR CATEGORIES

    A. Allocation/Use of Time.

    B. Antecedent/Consequent Role of Time.

    C. Time Perceptions/Orientation.

    D. Time and Decisions.

        1. Discounted Utility Model.

        2. Time in the Behavioral Decision Theory Literature.

        3. Marketing Studies on Time and Decisions

Time in the Marketing Literature

Allocation/Use of Time

Time exists as a delimitive parameter in human existence (each person has twenty-four hours in a day). It can be viewed as an element of the environment that aids in defining the context, external to the individual, within which a consumer activity occurs (Mowen 1993). It represents a finite duration that can be spent on internal or external exchanges (Lusch et al. 1992). As such, the individual interacts with this environmental element and makes decisions about how to use or allocate time. Time scarcity has been defined in terms of the constraining influence that it has on mankind (Gross 1987). Indeed, it is because of this scarcity that it is highly valued. As such, time is a resource that must be allocated (see Gross 1987 for a comprehensive review of interdisciplinary literature on time scarcity). The allocation

and use of time is important in the domain of consumer behavior and has received academic attention. Hirschman (1987) synthesized work on time use from the fields of economics, sociology, psychology, and social psychology to delineate strengths and weaknesses and suggested an experiential approach within consumer behavior.

Other research has extended the study of time use by examining its relationship to other constructs. Feldman and Hornik (1981) developed a time allocation model to stimulate research into the consumer allocation/use of time. Of interest to consumer researchers, time can be allocated relative to the acquisition, consumption, and disposition of goods and services or relative to discretionary time or time allocated for leisure (Holbrook and Lehmann 1981). Life style, conceptualized and operationalized in terms of the use of time, can explain consumer buying behavior (purchase of durables, credit cards, and insurance) (Lee and Ferber 1977).

Antecedent/Consequent Role of Time

Time has been modeled in time studies as both an independent and a dependent variable. This section first examines studies employing time as an antecedent, followed by a discussion of studies using time as a consequence.

Time as an Antecedent. Time as an antecedent factor in consumer behavior studies has received attention across an assortment of arenas. The allocation of time or time use was found to influence certain purchasing behaviors, such as the purchase of durables, insurance, and credit cards (Lee and Ferber 1977). For example, the time spent at home by the wife influenced the number or durables purchased whereas the number of hours spent in a career by the wife influenced the number of credit cards.

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Time-of-day (a situational variable) was found to affect immediate and delayed consumer responses (recall, recognition, and purchase intentions) to television commercials (Hornik 1988). These results indicated that immediate recall and recognition were higher in the morning than later in the day while delayed (two hours) recall and recognition was lower in the morning and higher later in the day. The study demonstrated the importance of considering the timing of measuring advertising recall and recognition.

In a retailing context, time pressure and store environment has been found to impact conformity between the consumer encoded and actual purchasing sequence as well as unplanned purchases (Iyer 1989). Specifically, the less the time pressure, the more unplanned purchases are made; the greater the time pressure, the less unplanned purchases are made.

Time available for shopping and store knowledge have also been found to influence in-store consumer decisions (Park et al. 1989). Time pressure influences failure of the consumer to buy the things they intended to purchase; low store knowledge and low time pressure individuals bought more items than they intended. Brand switching due to inability to find one's product preference was highest for low store knowledge and time pressure.

In a promotions context, the impact of temporal distance, moderated by involvement, on persuasion and affect intensity has been studied (Meyers-Levy and Maheswaran 1992). The manipulations included involvement with the message and a message with a negative outcome and an alternative positive outcome that was missed by a short/long time delay. This study suggested that the element of time can influence the persuasive capabilities of advertising appeals by changing consumer

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motivation to examine promotional messages. It was found that outcomes separated by short temporal distances as opposed to long ones encourage the consumer to more closely inspect the claims of a message in a low involvement state. The message in one study concerned children in Chile whose parents had been taken by the military junta and Save the Children's attempts to rescue them. Attempts to get the children out of the country to safe, loving homes were stopped within one day/nine months of the evacuation effort. The other study involved a chance and the failure to buy renter's insurance and a fire just three days/six months after the missed opportunity. The results indicated that when involvement was low, persuasion was greater with a short time interval between the actual outcome and the just missed outcome; when involvement was high, persuasion was not impacted by variations in time between actual and alternative outcomes.

In the context of television commercials, Singh and Cole (1993) found that the temporal length of the commercial influences brand name recall for emotional ads but not informational commercials. Fifteen second commercials are as effective as thirty second ones relative to claim recall for all repetition levels tested. The thirty second informational commercials had lower affective attitude toward the ad while the fifteen second and the thirty second commercials did not differ on evaluative attitude toward the ad, attitude toward the brand, and purchase intentions. The longer emotional commercials scored higher than the shorter ones on evaluative attitude toward the ad, attitude toward the brand, and purchase intentions.

Deighton, Henderson, and Neslin (1994) examined the impact of various factors occurring over time on brand choice, such as previous and current advertising, previous purchase, and price. They found that, for frequently purchased, mature

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products, advertising behaves as a tool for reminder mostly between past and current purchases.

Singh, Mishra, Bendapudi, and Linville (1994) found that short versus long measurement delay interacted with lag (number of intervening messages between showings of the commercial of interest) in influencing message recall for television commercials.

Inman and McAlister (1994) studied the influence of expiration dates on the rate of coupon redemptions. They found that a temporally near expiration date precipitated an increase in coupon redemptions as consumers seek to avoid the loss of the coupon.

Time has been studied in the context of service encounters. Taylor (1994) examined the influence of delay of a service on evaluations of the service. Results indicated that delays foster low service evaluations, anger, and uncertainty. Transaction accuracy (or lack of it) in bill paying and when the information was revealed (immediately or delayed) was found to impact time-dependent attributes or attributes that are only revealed with the passage of time (Ang et al. 1996). For example, if immediate information is provided about transaction accuracy or inaccuracy, consumer evaluations of the bank's security and confidentiality is not impacted; however, if information about transaction accuracy is revealed one month later, security and confidentiality are rated higher when the transaction was accurate than when it was inaccurate. Similarly in a service context, Hui and Tse (1996) examined the impact of perceived waiting duration, affective response to the wait, and the acceptability of the wait on service evaluation. This study demonstrated that the affective response to the wait and acceptability of the wait mediate the relationship

between waiting information and service evaluation; perceived waiting duration did not mediate the relationship.

Time as a Consequence. Hornik (1993) studied the influence of mood on time orientation and perception and found that a situational factor such as mood does indeed influence both temporal variables. Specifically, he found that positive mood states tend to result in a more future-oriented position while a negative mood state tended to produce a more present-oriented state.

Time Perceptions/Orientation

Graham (1981), in an important conceptual article, noted that people view time differently and that these fundamentally different views are a consequence of the cultural tradition of which they are a part. He argued that time perceptions are major influencers of consumer behavior, and that people perceive time in different ways, both between and within cultures. The paper is instrumental in clarifying the position that time perception differs across cultures and may vary by task definition. One type of differential perception of time deals with the estimation of time: (1) succession, which describes two or more events perceived as different and occurring in sequence; and (2) duration, which is concerned with the interval of time between successive events (Fraisse 1984).

Bergadaá (1990) phenomenologically examined consumer conceptions of time as an underlying element of motivations and behaviors. She found that future-oriented individuals appear to be more proactive, oriented toward activity, exhibit motivations grounded in the future, and are more susceptible to change; present-oriented

individuals seem to be more reactive in their consumer behavior, resistant to change, have motivations based on the present, and fail to plan for the future.

Indeed, consumer time perception, both independent of and in combination with other variables, is an important factor in determining buying behavior. In a conceptual work, Guy et al. (1994) argued that time perceptions (with its subsequent impact on consumer behavior) might differ according to such demographic variables as age.

Evidence of segments of people who spend different amounts of time shopping are distinguishable by demographic and social characteristics (McDonald 1994). For example, results indicated that women search more than men when shopping and singles spend more time searching than married individuals; older consumers spend more time in search than younger consumers. Additionally, households with more income search less than households with lower income. The study showed that adding time perceptions to the regression increased the amount of variance explained.

Conclusion

The literature review on time demonstrates the significance of this construct in marketing. This review exemplifies the relevance to marketers of understanding the time available to consumers and its allocation in participation in the exchange process, the influence of time on various buying behaviors and responses, and the impact of individual perceptions of time and time orientations on motivations and behaviors. Time and the consumer decision making process is also an important area of study in marketing and is key to the development of the present research. This literature is examined in the next section.

Time and Decisions

Decision theory concerns decisions that have future outcomes but are made in the present (Björkman 1984). Thus, this literature is central to the dissertation and is explored in depth (see Table III). The domain of time and decisions can be examined from the following perspectives: (1) decisions necessarily derive from information from the past and these decisions have results in the future; (2) in decision making, involvement, knowledge, and discounting interact with the element of time; (3) the present and the future are inherently connected; and (4) decision making must be guided by strategies that consider the impact of time (Björkman 1984).

The value of time relative to decisions has been studied (Greenleaf and Lehmann 1995; Leclerc et al. 1995). Value judgements involve an awareness of time "...to the extent that we are conscious of the temporal absence of the ideal or model;" awareness of time involves value judgments "...so that it is difficult for ideas of future and past not to be in terms of better and worse" (Alexander 1945, page 110). Thus, valuations of outcomes in the present that will occur in the future are necessarily value laden. Individual valuation of the outcome of a consumer decision is influenced by the applicable time horizon (Wright and Weitz 1977). When a consumer evaluates a decision's outcome, a judgment or appraisal is rendered relative to the value (overall goodness or badness) of that outcome.

TABLE II
THE TIME LITERATURE

RESEARCHER/YEAR	CATEGORY	CONTRIBUTION
Lee and Ferber, 1977	Allocation/ Use of Time	Life Style/Time
Feldman, Hornik, 1981	Allocation/ Use of Time	Time/ Allocation Model
Graham, 1981	Perceptions/Orient	Time Perceptions
Holbrook, Lehmann, 1981	Allocation/ Use of Time	Allocating Discretionary Time
Gross, 1987	Allocation/ Use of Time	Time Scarcity
Hirschman, 1987	Allocation/ Use of Time	Synthesized Work on Time from Multi-disciplines
Hornik, 1988	Antecedent/ Consequent	Time as Situational Element
Iyer, 1989	Antecedent/ Consequent	Time Pressure/ Unplanned Purchases
Park et al., 1989	Antecedent/ Consequent	Time Available for Shopping/Purchasing Behaviors
Bergadaá, 1990	Perceptions/Orient	Time/Motivations/ Behaviors
Lusch et al., 1992	Allocation/ Use of Time	Internal/ External Exchange

TABLE II (continued)

RESEARCHER/YEAR	CATEGORY	CONTRIBUTION
Meyers-Levy/Maheswaran 1992	Antecedent/ Consequent	Temporal Distance/ Persuasion
Hornik, 1993	Antecedent/ Consequent	Mood/Time
Singh/Cole, 1993	Antecedent/ Consequent	Length of TV Commercials
Deighton/Henderson/ Neslin, 1994	Antecedent/ Consequent	Time and Brand Switching
Guy, 1994	Perceptions/Orient	Time Perception/Age
Inman/McAlister, 1994	Antecedent/ Consequent	Expiration Dates/ Coupon Redemption
McDonald, 1994 Demographic	Perceptions/Orient	Time Perceptions/ Social and Factors/Shopping Time
Taylor, 1994	Antecedent/ Consequent	Delay and Service Evaluation
Singh et al., 1994	Antecedent/ Consequent	Television Commercials/Delay in Memory Measurement
Ang et al., 1996 Attributes	Antecedent/ Consequent	Service Encounter/ Time Dependent
Hui and Tse, (1996)	Antecedent/ Consequent	Service Encounter/ Waiting Time

Specifically, the length of time between the point of evaluation and the outcome, either a loss or a gain, is key in determining the valuations of that outcome. Since the temporal component is so often a part of any promotional campaign, it is critical to understand the manner in which time influences consumer decision making. The text that follows reviews research contributions relevant to time and decisions from the discounted utility, behavioral decision theory, and the marketing literatures.

Intertemporal Choice

The history of intertemporal choice has been chronicled by Loewenstein (1992) who noted four discernable phases: (1) Senior and Jevons described the discounting of time in terms of the emotional/hedonic shapers of behavior in the nineteenth century; (2) the turn of the century work of Böhm-Bawerk and Fisher was characterized by a cognitive perspective that viewed choice between the present and the future alternatives as stemming from envisionality or lack of it; (3) the early years of the twentieth century witnessed attempts at purging psychology from the economic domain; and (4) in more recent years, the economics of intertemporal choice has experienced a resurgence of interest in the contributions of psychology.

Discounted Utility Model

The study of decision making and time has been traditionally guided by the discounted utility model (DU) with seminal work credited to Samuelson in 1937. The DU model exhibits several features including: (1) stationarity, which implies neither a positive nor a negative, but a neutral, impact of time delays; and (2) and preferential independence, which implies that consumption in a given period has no influence in

choice preferences in any other period; and (3) a constant discount rate (Loewenstein 1992).

However, the DU model encounters difficulty explaining empirical evidence indicating that individuals exhibit varying preferences for a certain alternative to be obtained at different times. It has been criticized as inadequate in explaining the valuing of losses or gains across time (Thaler 1981; Loewenstein 1988, 1992). Koopmans (1960) stated that DU's intractable consistency of discount rates does not easily accommodate "...important aspects of choice over time" (page 308). Additionally, DU's assumption of unique consumer rates of time preference, independent of the commodity bundle, is contraindicated in the absence of consumer homogeneity of preferences (Lancaster 1963).

Loewenstein and Prelec (1992), in addressing the anomalies of the discounted utility model, proposed a model of intertemporal choice. This conceptualization regards intertemporal choice as a function of variations from a status quo reference point and different points in time. Thus, preference is modeled in terms of a value function and a discount function. This model posed the following assumptions relative to the value function: (1) the value function is steeper in the loss domain than that for gains; (2) the value function for losses has more elasticity than that for gains; and (3) outcomes that are larger in terms of absolute magnitude have a more elastic value function. The model asserts that time delays have more impact when experienced earlier as opposed to later and that utility at different times hinges on a standard of comparison, or a reference point.

<u>Time in the Behavioral Decision Theory Literature.</u>

In more recent years, the domain of intertemporal choice has experienced a resurgence of interest in the contributions of psychology. The studies reviewed below are evidence of this renewed interest in psychology in addressing the shortcomings of the DU Model in explaining human behavior.

TABLE III
TIME AND DECISION LITERATURE

RESEARCHER/YEAR	CATEGORY	CONTRIBUTION
Koopmans, 1960 Postulates	DU Model	Mathematical
Lancaster, 1963	DU Model	Time Preferences with Different Rates for Different Commodity Bundles
Mischel and Grusec, 1969	Beh/Dec Theory	Time Delay/Size of Positive/ Negative Outcome
Nisan, 1972	Beh/Dec Theory	Time Delay and Skill Dependent Task
Jones and Johnson, 1973 Decisions	Beh/Dec Theory	Time Delay on Riskiness of
Wright and Weitz, 1977	Beh/Dec Theory	Effects of Time on Decisions for Implementation of Birth Control Device
Hausman, 1979	Beh/Dec Theory	Discount Rates on Air Conditioners
Gately, 1980	Beh/Dec Theory	Discount Rates on Refrigerators
Ainslie and Haendel, 1983	Beh/Dec Theory	Discount Function of Rewards
Björkman, 1984	Beh/Dec Theory	Literature Review of Decision Making, Taking, Time

TABLE III (continued)

RESEARCHER/YEAR	CATEGORY	CONTRIBUTION
Christensen-Szalanski, 1984	Beh/Dec Theory	Preferences Shifts Related to Time Delays in Medical Context
Christensen-Szalanski and Northcraft, 1985	Beh/Dec Theory	Benefits Preferred Earlier/Costs Preferred Later in Medical Context
Stevenson, 1986	Beh/Dec Theory	Time Delay and Valuation of Outcomes in an Investment/Credit Context
Loewenstein, 1987	Beh/Dec Theory	Element of Anticipation in Intertemporal Choice
Loewenstein, 1988, 1992	DU Model	Criticisms and Addressing of Anomalies
McNeil, Pauker, Tversky, 1988	Beh/Dec Theory	Framing Effects in Medical Context
Benzion et al., 1989	Beh/Dec Theory	Influence of Time Delay, Cash Amount, Postpone/Expedite Gain or Loss on Discount Rate
Mowen and Mowen, 1991	Marketing	Time and Outcome Valuation Model

TABLE III (continued)

RESEARCHER/YEAR	CATEGORY	CONTRIBUTION
Mowen, 1992	Marketing	Time and Outcome Valuation Model to Account for Reactance/Risk Perceptions
Shelley, 1993	Beh/Dec Theory	Investigated Neutral Frame Along with Expediting/Delaying
Cripps and Meyer, 1994	Marketing	Timing of Durables Replacement
Shelley, 1994	Beh/Dec Theory	Divergent Discount Rates for Losses and Gains with Losses Higher than Gains
Amyx and Mowen, 1995	Marketing	Advancing/Delaying Payments, Time Orientation in Personal Selling
Ganzach and Mazursky, 1995	Beh/Dec Theory	Time Delay/ Information on Judgments
Greenleaf and Lehmann, 1995 Decisions	Marketing	Reasons for Delay in Consumer
Leclerc et al., 1995	Marketing	Time is Like Money Under Certainty/ Different Under Uncertainty
Marshall, Mowen, and Stone, 1995	Marketing	Decision Frame/ Time/Sales

TABLE III (continued)

RESEARCHER/YEAR	CATEGORY	CONTRIBUTION
Knetsch, 1995	Beh/Dec Theory	Losses are Weighted More than Gains
Bristol and Amyx, 1996	Marketing	Delayed Incentives

Mischel and Grusec (1969) experimented with children making choices between smaller, immediate as opposed to larger but delayed positive/negative consequences. They found that the subjects were less willing to delay positive consequences as the length of delay increased; the delay length made no difference between immediate versus remote negative consequences. Other findings indicated that in a sequence of decreasing time delays, individuals were more willing to wait than those in a sequence of increasing time delay condition. These authors suggested that the sequence in which the delay was presented acted as an reference point or anchor for later outcome valuations. These findings suggest that the valuations of delayed gains versus losses (or positive versus negative consequences) are weighted differently depending upon their temporal occurrence.

Another study examined the impact of different time periods (now versus four weeks) upon the expectation of a successful outcome and the decision concerning level of task difficulty, when the outcome is directly related to the skill of the individual (Nisan 1972). This researcher found that when the skill-dependent task is in the future, there is higher risk taking (respondents chose more difficult items) and a greater expectation of success for those subjects that are success oriented. Nisan

suggested that the observed increase in expectation of success is related to a sense "...that time improves one's control over the environment" (page 180). Thus, the evidence indicates the over weighting of the value of gains when compared to losses with an acceptance of greater risk when the outcomes are temporally remote.

Jones and Johnson (1973) conducted a series of experiments to explore the influence of time delays (thirty minutes, three hours, twenty-four hours, and one week) on conservative versus risky decisions in a situation involving dosage levels for a drug with possible negative side effects (the drug was fictitious). Time delay (or the time interval between the decision and the experience of the consequences of that decision) was found to impact the riskiness of the decision. Specifically, when the decision outcome was to be experienced immediately, respondents chose the more conservative decision; when the decision outcome was to be experienced at some later time, subjects tended to make a more risky choice. This research was based on Miller's approach-avoidance conflict theory which asserts that negative outcomes are more salient than positive ones when both are immediate. Indeed, the results suggest that decision makers are likely to accept more risk when an outcome is in the future.

One study prescribed a model for examining time horizons and decision making stages (Wright and Weitz 1977). They examined the model within the context of decisions related to birth control devises and developed hypotheses related to the effects of time horizon on the relative utilities associated with outcomes. When the birth control devise was to be activated the next morning, the respondents exhibited an aversion to loss. When the activation of the birth control devise was in the future (six months), the respondents displayed less of an aversion to loss. This study featured a product (birth control devise) associated with risk and the possibility of significant

losses. These researchers modeled preference judgments as individual utility models based on multi attribute product concepts across close and remote time periods utilizing concept-evaluation. The study results indicated that conservative decisions were made when outcomes were to be experienced in close temporal proximity and more risky decisions were made when outcomes were remote.

In one early study involving a tradeoff between purchase price and operating costs for energy-using durables (e.g., choice between loss in the present versus loss in the future), results indicated that consumers utilize a much higher discount rate (around 25 percent) than the opportunity costs in credit markets would imply when making decisions involving discounting over time (Hausman 1979). Gately's (1980) work closely paralleled the Hausman study about air conditioners. He considered the purchase price of refrigerators and the cost of electricity. Results of calculations of implied discount rates for the cheap model showed rates ranging from 45 to 130 percent for an electricity price of 3.8 cents per KWH and 120 to 300 percent for an electricity price of 10 cents per KWH. These results suggest that losses occurring in the present have a greater weight than losses in the future.

Thaler (1981) conducted an experiment to test hypotheses about the behavior of individual discount rates. Four sets of questionnaires included three gain conditions and one for a loss condition. The gain condition involved acquiring prize money from a bank either now or later. Subjects provided responses to the question of how much money they would need to be compensated in order to be content to wait for the money as opposed to receiving it immediately. The loss scenario concerned a traffic ticket fine that could be paid now or at a later time. Gain condition A consisted of $15, $250, and $3,000 with time periods of three months, one year, and three years;

gain condition B consisted of $75, $250, and $1200 over six months, one year, and five years; gain condition C consisted of $15, $250, and $3000 over one month, one year, and ten years; the loss condition consisted of $15, $100, and $250 and time periods three months, one year, and three years. The results demonstrate that: (1) discount rates decline with increasing time delay; (2) the discount rates decline with increasing monetary amount; and (3) gains and losses are discounted differently (i.e., discount rates are higher for gains than for losses).

Ainslie and Haendel (1983) examined the discount function of rewards. In a series of three experiments, these academicians found evidence of high discounting of future reinforcements. For example, in the first experiment, subjects had a choice between receiving prize money that could be cashed in one week or a check for double the original amount that could be cashed at some later time. They were asked to give the amount of time they were willing to wait to make them indifferent between the two amounts of prize money. The researchers reported discount rates in this study to be in the vicinity of "...several thousand percent per year" (page 133). Interestingly, differences between individuals was greater than differences between the two groups (hospital employees and alcohol/drug rehab patients). The findings imply that subjects framed the delay of a gain as very aversive and charged a great amount for such a delay.

Christensen-Szalanski (1984) provided evidence that valuation of future outcomes vary with the passing of time in a medical context that involved choices by pregnant women to avoid labor pain or anesthesia. Their preferences for anesthesia shifted depending upon temporal distance from intense pain. Specifically, the patients exhibited a preference for no anesthesia when asked one month prior to the onset of

labor and during the early stages of labor when pain is tolerable; however, during hard labor, the preference shifted to desiring anesthesia. One month after delivery, the mothers once again preferred no anesthesia. In general, a patient's stable preferences might not be displayed depending upon the point in time that the measurement was taken. Because future gains are discounted, people prefer a gain in the present (no pain) over one in the future (no side-effects from anesthesia).

Christensen-Szalanski and Northcraft (1985) examined the element of time and the different temporal positions that costs and benefits can assume in a medical context. For example, the authors noted that a certain medical treatment can produce the same amount of benefits for a given cost, but the addition of the temporal occurrence of the benefit or the cost can impact consumer behavior differentially. In order to understand the impact of costs and benefits occurring at different points in time, the article offered a time adjusted rate of return (a discounting approach) to model varying temporal distributions of costs and benefits. These writers argued that "any"benefits derived from a medical treatment are preferred now rather than in the future; conversely, "any" costs incurred in a course of action were preferred in the future rather than in the present (page 267). These results demonstrated that time systematically influences the valuations of gains and losses. Specifically, gains in the present are more appealing than gains in the future; losses in the present are more negative than losses in the future. This suggests that gains and losses are discounted divergently, with losses discounted more rapidly.

The discounting process inherent in valuations of delayed outcomes has been studied (Stevenson 1986). This research, conducted in the context of investments and credit plans, demonstrated that subjects wanted gains now and discounted gains

proportionately to any time delay; however, when a cost was involved, respondents wanted to pay later and discounted the payment amount in a manner proportionate to a specified time delay. Again, time is shown to impact valuations of gains and losses.

Loewenstein (1987) examined the effects of anticipated pleasure and pain as sources of utility on discounting. In this study, time delays were three hours, twenty-four hours, three days, one year, and ten years. Outcomes involved obtaining four dollars, avoiding the loss of four dollars, avoiding the loss of one thousand dollars, avoiding a one hundred and ten volt shock, and obtaining a kiss from a movie star of the individual's choice. The results indicate that the money amounts were discounted in the manner predicted by discounted utility (these results are similar to those of Yates and Watts (1975) who found that the loss of monetary amounts was preferably delayed). However, the kiss and the shock exhibited an anomalous result. With the kiss, subjects did not prefer to consume the outcome immediately; with the shock, respondents did not prefer to delay the negative outcome. The model proposed by Loewenstein accounts for the element of anticipation of outcomes in intertemporal choice (for the kiss, anticipation involves enjoyment and pleasure; for the shock, anticipation includes worry about potential pain). Thus, the point in time that a positive or negative outcome is to be experienced influences decision making.

McNeil, Pauker, and Tversky (1988) conducted two experiments in a medical context. One study investigated the effects of framing on a hypothetical choice between treatments (surgery vs radiation therapy) for lung cancer. The scenarios indicated that the surgery offered more long term advantages (i.e., a higher life expectancy) but greater chance of "loss" in the present (i.e., death). Conversely, the radiation therapy offered more "gain" in the present (i.e., less chance for death) but

greater chance for "loss" in the future (i.e., fewer people survive after five years for radiation than for surgery). When the framing shifted from the gain domain (in terms of how many survive) to the loss domain (in terms of how many die), subject preferences shifted from 18% for the radiation over surgery option to 47% preferring the more conservative option. Interestingly, 40% preferred the radiation over surgery option in a mixed frame (in terms of both survival and mortality), which the researchers concluded provided evidence for the greater weighing of losses (mortality) over gains (survival) when simultaneously compared. Thus, the framing of decision information influences judgment and decision making.

Loewenstein (1988) demonstrated the superiority of a reference point model over the discounted utility model in explaining intertemporal choice in a series of experiments. The first study involved immediate or delayed consumption of a VCR; the second study presented the respondents with consumption of a $100 gift certificate to a restaurant, and the third study involved real choices as opposed to hypothetical ones about receipt of a seven dollar gift certificate to a record shop. Evidence supported several hypotheses: (1) a delay premium (an individual who has adjusted to owning the good is expecting immediate delivery but is faced with a delay of that delivery) is greater than the difference between an immediate and a delayed consumption price (the reference point is zero since the subject has not adapted to ownership at either point in time); (2) speed-up cost (the respondent anticipates future delivery and moves up the time of possession) is greater than the difference between an immediate and a delayed consumption price (zero reference point situation); and (3) the premium for delay is greater than the cost of speeding up consumption. Mean discount rates for the three frames were 0.24 for the zero reference point situation,

0.31 for the speed-up case, and 0.96 for the delay scenario. Indeed, subjects were much more concerned with delay of consumption (loss) than they were with expediting consumption (gain).

Benzion et al. (1989) conducted an experiment with a 4 X 4 X 4 factorial design: scenario (postponing a receipt, postponing a payment, expediting a receipt, expediting a payment), time delay (0.5, 1, 2, and 4 years), and amount of cash ($40, $200, $1000, and $5000). Discount rates were computed and used to test four separate hypotheses concerning how discount rates relate to time delays, cash flows, and postponing a receipt/payment or expediting a receipt/payment. The authors concluded that discount rates were smaller for negative outcomes than for positive outcomes. In other words, they concluded that gains were discounted faster than losses.

Shelley (1993) investigated the neutral frame (no changes in timing such as delaying or expediting) in which respondents provide the current value of future or immediate consumption. They manipulated outcome sign (payment or receipt), frame (delaying, neutral, or expediting), time (six months, one year, two years, and four years), and amount of money ($40, $200, $1000, and $5000). Four of the scenarios (expedite/delay payment/receipt) were investigated by Benzion et al. (1989), and the neutral payment/receipt scenarios were new. Results indicated that an interaction between outcome sign (gain or loss) and changes in outcome timing (delaying, neutral, or expediting) influences implied discount rates. Specifically, delaying a receipt (20%) is more negative than delaying a payment (10.7%); expediting a payment (18.1%) is more upsetting than expediting a receipt (15%). These results demonstrated that gains and losses are discounted differently.

In risky intertemporal decisions, Shelley (1994) found that gains and losses are discounted divergently and a higher discount rate is utilized for losses that for gains. Using a lottery stimulus, a 4 X 4 X 4 X 2 design was tested: (1) four gains of $1000, $5000, $100, and $60; (2) four losses of $900, $400, $200, and $160; (3) four time periods of immediate, six months, one year, and two years; and (4) two probabilities at 0.6 and 0.4. Respondents provided subjective ratings of each stimulus. She found that the respondents rated losses higher with delay and gains lower with delay.

Ganzach and Mazursky (1995) examined the length of time between the receipt of information and the judgment. They manipulated time delay of judgment and consistency/inconsistency of information (only positive/negative attributes provided or both positive and negative attributes provided). Inconsistent information produced more negativity in immediate judgments, with judgments becoming more positive after delay. Their results indicated that when the evaluation was made immediately after acquisition of information, judgments were biased toward the negative; when evaluations were made one week later, evaluations were biased in a positive direction. This positive bias was exhibited when the delay in evaluation relied upon recall of the originally presented information.

Knetsch (1995) found that people are more concerned with losses than with gains in a between-subject experiment that also demonstrated a wide array of possible valuations. Valuations of goods are dependent upon a reference point and the direction of change from this reference point.

Marketing Studies on Time and Decision Making

Several recent studies have examined time and decisions, indicating the increasing importance of this topic to the marketing discipline.

Mowen and Mowen (1991) developed a model that describes the influence of time on the valuation of losses and gains. The model incorporates concepts from prospect theory (Kahneman and Tversky 1979), approach-avoidance conflict theory (Miller 1959), and the discounted utility theory (Koopmans 1960). The assumptions of the model allow for explanations of an array of consumer behavior phenomena (e.g., risk aversion, reactance, future optimism, deadline effects, and dissonance) with an encompassing explanatory mechanism. The model proposes that consumers evaluate outcomes in the present, and that this point acts as a reference point for determining when particular losses or gains occur (Mowen and Mowen 1991, page 55). The TOV explains how different time periods, from the point of evaluation to the occurrence of the outcome, can result in differing valuations of the outcome.

Bristol and Amyx (1996) examined consumer decision behavior when faced with a choice between delaying a gain or receiving it now. They found that consumers are more likely to choose a delayed reward when it is a higher amount than that to be obtained in the present.

Mowen (1992) utilized the time and outcome model (TOV) to examine reactance and risk perceptions. He argued that, from the perspective of the TOV, when an consumer does not receive a gain, it is framed as a loss. This loss engenders a state of reactance. Further, the results of two studies provided support for the TOV model and indicated that, with outcomes occurring in close temporal proximity to the

consumer decision, risk aversion is prevalent; however, when the outcome and the decision are separated by a long temporal distance, risk seeking predominates.

Cripps and Meyer (1994) studied decisions related to replacing durables. They found that when replacement lag was held constant (lags between new and previous performance indicators), that the amount of time since the last replacement was positively related to replacement decisions. This study demonstrates that time is an integral part of consumer decisions.

In another study that underscores the importance of time in consumer decisions, Greenleaf and Lehmann (1995) developed and tested a typology of consumer decision delay reasons, such as the unpleasantness of shopping, social/psychological risk, need time to gather information, and too busy. Delay reasons were not related to the amount of time between need recognition and search, and the researchers concluded that causes of delay in the beginning stages of the decision process are very different from those in the final stages. They also found that reasons for delay were perceived differently according to whether the delay is internally or externally caused and whether delay is decision related or related to other activities.

In examining whether time is equated with money in making consumer decisions, the results of the Leclerc et al. (1995) study indicated that, in deterministic situations, consumers treat time choices and monetary choices in the same manner. However, in situations involving uncertainty, the behaviors diverge. The authors ascribed these perplexing results to the nonfungibility of time when compared to money. In other words, time differs from money in that it is not easily stored or transferred; "...uncertainty is more aversive in time than monetary decisions" (Leclerc

et al. 1995, page 118). They also found that consumer appraisals of the value of time was impacted by valuations of the outcomes of the waiting situation.

Decision frame and time was examined in a sales management context (Marshall, Mowen and Stone 1995). Empirical support was provided for Mowen and Mowen's (1991) Time and Outcome Valuation (TOV) Model. This theoretical approach allows risky choice in a sales personnel decision to be modeled in terms of not only the decision framing (gain or loss) but in terms of a temporal element as well. Findings indicated that the preference for sales personnel (choice between a less-risky versus a more-risky candidate) depended upon the decision frame (as a loss or as a gain) and whether the outcome of the decision was temporally near or remote (within one week or one year). In support of the predictions derived from the TOV, when managers operated in the gain domain, they preferred the more conservative choice when the outcome was temporally remote; when the outcome to be experienced was in close temporal proximity, the more risky choice was the preference. When managers viewed the decision from the loss domain, they preferred the risky choice over the conservative one when timing of the outcome was in the future; when outcomes in this loss domain were close at hand, they preferred the more conservative of the choices.

Amyx and Mowen (1995) conducted an experiment in a personal selling scenario using a 2 X 2 X 2 design with factors of timing of payment (today and 2 months), timing of receipt (today and 2 months), and time orientation (present and future). The dependent variables were likelihood to buy and likelihood to buy now. The results indicated that present-oriented individuals prefer to delay payment while future-oriented individuals would rather pay immediately. No significant differences were found for timing of receipt of the car between future and present-oriented

individuals. These results provide support for the TOV Model (Mowen and Mowen 1991).

Diamond and Sanyal (1990) investigated the impact of sales promotions framing on consumer choice. Their results indicate that, in a coupon redemption choice, consumers are more likely to prefer a promotion framed as a gain over a promotion framed as a reduced loss. Diamond and Johnson (1990) offered a classification schema of sales promotions based on the issue of framing. These results demonstrate that nonmonetary and monetary outcomes are likely to be framed differently by the consumer.

Conclusion

These studies have demonstrated that time systematically influences decision making. They examined intertemporal choice in a variety of settings, including a medical context, the anticipatory process of receiving a kiss from a favorite movie star, payment of a traffic fine, simple monetary amounts, and the receipt of drugs with potential negative side effects. These researchers employed a vast assortment of commodity bundles, time delays, frames, and cash flow amounts in studies that explicitly examined time and decisions.

The results of these studies converged in a variety of areas. Valuations of delayed gains versus losses (or positive versus negative consequences) are weighted differently depending upon their temporal occurrence. Short term gains or losses are given more weight than temporally remote gains or losses. Discount rates decline with increasing time delay. Consumers frame postponing/delaying a gain very differently; they also frame postponing/delaying a loss differently.

To date, however, no comprehensive theoretical model has been provided that parsimoniously accounts for the observed findings. Nor has time and valuation of outcomes been investigated in a consumer setting. To that end, the model of time and outcome valuation that will be described in the next chapter delineates how different time periods, from the decision point to the time when the decision outcome is realized, impact decision making and judgments of the goodness or badness of the outcomes of those decisions. Then, two studies are outlined that seek to examine time and the valuation of outcomes in a consumer context.

Individual Difference Variables

Demographic Variables

The impact of age on valuation of future outcomes has long been recognized (see Jevons 1924 for a discussion on discount rate as a function of age). Strotz (1956) commented that "children" tend to discount future occurrences at a higher rate than older individuals and that the "...'virtue' of frugality is something to be instilled when building 'character'" (page 177). Indeed, Mischel and Metzner (1962) found that a preference for a delayed reward had a strong positive relationship with age. In other words, their results indicated that the older the subject, the longer the time horizon.

Strotz (1956) also argued that lower-income individuals will be more prone to discount future events at a higher rate than those of higher income:

> It [one who discounts the future because it is the future] is especially among the lower-income classes, where education and training are commonly blighted, that one would expect to find imprudent behavior of this sort. In America, lower-income people tend to gorge themselves with food after pay-day; overheat their homes when they have money for a bucket of coal...engaging in heavy instalment [sic] buying...all these behavior characteristics can be explained

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as a failure to cope intelligently with the problem of the intertemporal tussle.

Strotz 1956, page 178

Jevons (1924) stated that, for the "untutored savage...the wants of a future year...are wholly unforeseen" (page 35). Warner (1962) similarly argued that the lower classes exhibit a more unrestrained gratification of present desires than that found in the higher classes. This hypothesis is borne out by the Hausman (1979) study. This researcher found a negative relationship between income and discounting. The highest income class had an implied discount rate of 5.1%, while the lowest income class had a discount rate of 89%. The drop from 89% to 39% between the lowest income class ($6000) the second from lowest income class ($10,000) graphically illustrates that income has an influence on discount rates. Similarly, Viscusi and Moore (1989) found discount rates to be related to education. They found that individuals with eight years of school had a rate of 15% percent while college-educated persons had a rate of 5.5%. Viscusi and Moore (1989) explained that these findings suggest that persons with low discount rates preferred delayed benefits in terms of education.

Finally, Thaler and Shefrin (1981) argued that individual differences in discount rates should exist because individuals restrain themselves at divergent rates. These scholars noted that one's social class and age should be important determinants of individual discount rates.

Time Orientation

Time horizon or orientation has to do with an individual's absorption with and preference for the past, present, or future (Reichler and Brickman 1989). It refers to

the relative importance in an individual's life of the past, the present, or the future. A future time orientation has been defined as an individual's propensity for thinking about future consequences and outcomes for behaviors in the light of alternative plans, giving thought to attendant gains and losses associated with these different plans; in an opposite direction, a present orientation is one where the individual is moved to action by the senses and circumstances (Zimbardo 1994). "Moreover, as the philosophical literature makes plain, a man's time perception should affect his perception of and behavior in his environment" (Cottle 1967, page 58). Indeed, empirical evidence supports the notion that dimensions of culture (including time orientation) influences consumer behavior (Kluckhohn and Strodtbeck 1961; Henry 1976). Thus, its impact on valuations is of importance to both managers and academicians.

When time orientation consistently influences decision making, it acts as "...a personality dispositional variable which subtly but powerfully exerts a non-conscious direction on thoughts, feelings, and actions" (Zimbardo 1994, page 8). The present-oriented individual is more likely to exhibit a propensity to heed immediate impulses at the expense of long-range consequences; conversely, the future-oriented person balances the long-term gains and losses against those to be obtained in the present with an emphasis upon future outcomes (Zimbardo 1994).

Time orientation has been found to be an important variable both in marketing research and research in social psychology. Research has produced evidence indicating that time orientation is related to life style (Settle et al. 1978). Previous work has demonstrated the presence of a moderating effect of time orientation on the relationship between the timing of payments and purchase intentions (Amyx and Mowen 1995). Benzion et al. (1989) suggested that time preference may be a factor

in determining individual utilities. Jason et al. (1989) found no relationship between time orientation and expectations for the future, although these were global expectations as opposed to personal expectations. De Volder and Lens (1982) found that a long future time perspective lends a high valence to future goals (dynamic) with a high simultaneous instrumental value given to activities performed in the present that aid in reaching those future goals (cognitive).

<u>Impulsivity</u>

Schneider and Lysgaard (1953) realized the importance of understanding gratification delay and called for research that systematically examined the concept. Indeed, these scholars noted that the lower classes may be content with their circumstances because of a tendency to discount the future (page 148). Strotz (1956) viewed impulsiveness as characterized by a tendency to discount future events because they are a temporal distance away from the present. Impulsiveness is distinguishable from other forms of unplanned purchases which may include decisions to buy made in the store and not before entering the store. Rook and Fisher (1995) defined impulse buying as the consumer tendency to "...buy spontaneously, unreflectively, immediately, and kinetically" (page 306) and occurs when "...a consumer experiences a sudden, often powerful and persistent urge to buy something immediately" (Rook 1987, page 191). It could well be that Thaler and Shefrin's (1981) impulsive "doer" wins the argument over the "planner" self when that "persistent urge to buy something immediately" is obeyed. In agreement with Rook (1987), Iyer (1989) has stated that all impulse buying is unplanned, but all unplanned purchases are not impulse ones.

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The psychology and consumer behavior literatures have tended to focus on the negative aspects of impulse buying. However, certain purchasing situations might exist where the impulse to buy is not negative, buy may actually be neutral or even positively viewed (e.g., a generous gift, acts of kindness). Evidence has indicated that judgments about the appropriateness of impulse buying moderates the relationship between the impulse buying trait and purchasing behavior (Rook and Fisher 1995). Dittmar et al. (1995) presented and tested a model of impulse buying that views impulsivity in the light of the types of products bought under these circumstances. They found that gender distinguishes the type of impulse purchases, with women buying items on impulse that are associated with the emotions and men tending to buy items on impulse that are instrumental.

Impulse buyers tend to buy on the spur of the moment without much thought or planning. These consumers are likely to indulge their immediate impulses to purchase as opposed to waiting, searching, planning, and delaying the purchase until a future time period. They are likely to seek to shorten the interval between the decision and the outcome. The impulse buyer is likely to discount the consequences of his/her actions in an impulse to purchase now (Rook 1987); indeed, fifty-six percent of respondents reporting negative consequences had encountered financial problems resulting from impulse buying.

Impulsivity and Time. Impulsivity can be understood through its relation to the passage of time and to the valuations of the consequences of such behaviors. Several studies have examined the relationship between time and impulsivity that merit examination. Ainslie (1975) highlighted the early work of Mowrer and Ullman (1945) when he asserted that impulsive behavior stems from inadequate valuations of the

outcomes of such behavior. Mowrer and Ullman (1945) stated that smaller, but imminent rewards may be more important at the time than temporally removed negative consequences. Specifically, for these individuals, "...imminent consequences have a greater weight than remote ones" (Ainslie 1975, page 463). Millar and Navarick (1984) used a video game that acted as a reinforcer in examining the effects of delay of reinforcement and the size of the reinforcement. They found limited evidence of impulsivity in that a smaller, immediate reinforcer was preferred over a larger, delayed (120 seconds) reinforcer significantly more than preferences for small over large reinforcers both occurring immediately.

Hoch and Loewenstein (1991) examined the issue of time and self-control. They developed the Desire-WillPower Model of Self-Control, an economic-psychological model of the relationship between time-inconsistent choices (closely related to the idea of impulsivity) and consumer efforts to control such behavior. These behaviors can cause consumers to move against their own best interests and engage in behaviors that they may later regret. They argued convincingly that time-inconsistent choices are influenced by reference-point shifts. With a reference-point shift, the consumer is actually adapting or growing accustomed to the idea of ownership of an unpurchased item. When the reference-point shifts, the consumer's desire is heightened.

According to Hoch and Loewenstein (1991), the adaptation to possession can be impacted by physical proximity, temporal proximity, and social comparison. They modeled self-control resulting from an interplay between willpower and desire. The consumer is portrayed as controlling the self by attempting to reduce the desire (by eliminating to the extent possible any temporal or physical proximity, by postponement

and distraction, and by substitution) or by suppressing desire through willpower. Willpower is influenced by economic cost assessments, precommitment, time binding, cost bundling, appealing to a higher authority, and psychological costs such as regret and guilt.

Locus of Control

External control has been defined as the perception that events (rewards or reinforcements) are contingent upon personal behaviors or individual attributes; internal control has been defined as the perception that chance or powerful others determine events (Rotter 1966). Two dimensions of time have been examined relative to locus of control, time extension and time orientation. The internal versus external dimension is related to time perspective (e.g., time extension, or the length of time span that can be conceptualized) in the following manner: a short time perspective is related to an individual's belief in the external control of people or events (externally controlled) while a long time perspective is related to an individual's belief that situations are under the control of his/her behavior (internally controlled) (Platt and Eisenman 1968).

Other research has produced evidence indicating that an internal locus of control is not necessarily related to future-time orientation (Ko and Gentry 1991). Fingerman and Perlmutter (1994) found that locus of control (internal and power scales, but not chance occurrences) did not relate to future thought. In other words, the internally oriented individual appears to be better able to envision a greater time span; however, this does not imply that they are also more absorbed with the future than the present or the past. The externally oriented person has a more restricted

vision of spans of time. However, one study produced results indicating that control over future events predicted the amount of thinking about the future for both young and older adults (Fingerman and Perlmutter 1994).

The Nisan (1972) study could be viewed as "...a specific application of internality to the dimension of time" or "...as specifying a condition for 'internality,' namely, the availability of time" (page 180). The results indicated that success-oriented subjects had higher expectations of success in a future time period where the outcome depended upon individual skill. In other words, the intervening time period enhanced the respondent's sense of control over the outcome.

Rotter (1966) developed an internal-external scale (I-E Scale) to measure perceptions of control in one's life that is unidimensional in nature. Levenson (1974), in a refinement of Rotter's I-E Scale, found evidence of the existence of three factors: (1) internal, or the extent to which the individual feels that he/she is in control; (2) chance, or the extent to which the individual feels that chance is in control; and (3) powerful others, or the extent to which the individual feels that powerful others are in control.

CHAPTER III

THEORETICAL MODEL

Introduction

A model of time and outcome valuation (the TOV) provides the theoretical

foundation for the development of hypotheses (Mowen and Mowen 1991). This model

describes the influence of time on the valuation of losses and gains. The model

incorporates concepts from prospect theory (Kahneman and Tversky 1979), approach-

avoidance conflict theory (Miller 1959), and the discounted utility theory (Koopmans

1960). It subsumes a variety of consumer behavior phenomena (e.g., risk aversion,

reactance, future optimism, deadline effects, and dissonance) under the auspices of a

more parsimonious and powerful explanatory mechanism. The model proposes that

consumers evaluate outcomes in the present, and that "...the decision/evaluation point

in the present..." serves as a reference point for determining when particular losses or

gains occur (Mowen and Mowen 1991, page 55).

Assessing the Value of an Outcome

An integrated approach to the inclusion of values in comprehending choice in

the decision process has been encouraged (Keeney 1988). Specifically, this scholar

suggested that "...values should play a more central role in formalizing decision-

making processes than is currently the case" (page 465). The valuing of decision

outcomes, then, is considered to be a crucial component to delineating the choice process over time. Valuation is a term that describes the process through which a decision maker goes when assessing the overall goodness or badness of an outcome. The word 'value' and 'utility' are closely related; however, 'utility' implies something objective (goods and services, for example) and capable of generating in an individual subjective 'value' (Price 1993).

Kahneman and Tversky (1979) described the valuation process in terms of a hypothetical value function depicting the relationship between actual and subjective value of a give stimulus. They proposed that this value function is: (1) defined in terms of deviation from the reference point; (2) concave for gains and convex for losses; and (3) steeper for losses than it is for gains. This value function was depicted as being an s-shaped curve with origin at the reference point and a convex shape for losses in the lower left quadrant and a concave shape for gains in the upper right quadrant. Marginal increases in either actual gains or losses are viewed as possessing decreasing psychological value.

"The evaluation of outcomes is susceptible..." to the framing of the problem and the "tendency" of the decision maker to evaluate prospects relative to a reference point (Kahneman and Tversky 1984, page 346). Deviations from this reference point provide the shape of the hypothetical value function which is proposed to be concave above the reference point (gains) and convex below it (losses) [Kahneman and Tversky 1979]. However, Kahneman and Tversky (1979) did not directly address the case where outcomes occur at a temporal distance from the decision.

The TOV extends prospect theory's approach to outcome valuation with the inclusion of the dimension of time. Judgments of the passage of time relative to

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outcomes encompass both an objective and a subjective measure of time. The objective element is that which can be obtained from a calendar or clock. The subjective component is that which emanates from within the individual and is formed from the nature of the individual and the sum total of the experience of existence for that individual [see Doob (1971) for further discussion of these two methods of measurement]. The TOV suggests that consumers evaluate outcomes in the present, and this decision point or point of evaluation serves as a reference point for assessing the gains or losses incurred as a consequence of the decision. The outcomes that are evaluated can occur in the past, present, or future; thus, the model proposes that "...time systematically influences how individuals value the worth of losses and gains" (Mowen and Mowen 1991, page 55).

The TOV explains how different time periods, from the point of evaluation to the occurrence of the outcome, can result in differing valuations of the outcome. For example, it predicts that when outcomes are to occur in the present, the decision will be risk averse; when the outcome is scheduled to occur in the future or a more remote time, the decision will be more risk taking. These predictions hold when the decision maker is framing the situation from the origin of the hypothetical value function; individuals weigh both the losses and the gains in the valuation process. However, when the decision is framed from a loss or gain perspective, the individual tends to concentrate on the amount of gain or loss (Marshall, Mowen and Stone 1995).

It has been argued that the point in the decision making process at which valuations are formulated consists of judgments of prediction and valuation (Mowen and Gaeth 1992). The present research is specifically concerned with the valuations of outcomes to consumer decisions. Closely aligned with the valuation process are the

notions of a reference point and discounting. The text that follows reviews relevant literature in order to explicate these key ideas.

Related Concepts

Reference Point

The notion of a reference point, or adaptation level, is concerned with valuations of "...attainments relative to some psychologically relevant comparison point" (Hoch and Loewenstein 1991, page 494). It has been studied in the context of consumer decision making (Thaler 1980, 1985; Loewenstein 1988).

Kahneman and Tversky (1979, 1981, 1984) developed a theory of individual choice under risk. This model has its intellectual genealogy planted in expected utility theory. Expected utility theory has been criticized as a useful model of decision making under risk (Schoemaker 1982). Thaler (1979) proposed that prospect theory is an alternative positive or descriptive model that acts as a more encompassing canopy for handling consumer behaviors that digress from economic theory. Prospect theory expands the more limited perspective of the expected utility model by the inclusion of a reference point against which the gains and losses associated with outcomes are weighed (see Hershey and Schoemaker (1980) for empirical evidence which questions the reflection hypothesis).

Kahneman and Tversky (1979, 1984) argued that people actually value or assign utility to changes (losses or gains) in position (relative to a reference point) rather than evaluating alternatives by their final asset position. Additionally, gains and losses are evaluated in a divergent manner, and the framing of the outcome impacts consumer decisions in a choice situation. Individuals view outcomes as gains or losses,

and these gains or losses are compared to a neutral reference point, a point that is the status quo (or the expectations of the decision maker), the current position, or the zero point on the value scale (Kahneman and Tversky 1979). The value of any prospect should be a function of the reference point and the size of change (gain or loss) in relation to that reference point (Kahneman and Tversky 1979). It has also been noted that the context of the decision framework influence valuations of available alternatives (Qualls and Puto 1989). Puto (1987) has stated that the reference point is a context factor that affects valuations of alternatives.

Individuals are conceptualized as engaging in two phases when making a choice: (1) an editing stage in which available options or prospects are organized and simplified so as to facilitate the choice process itself; and (2) the evaluation of alternative prospects along the value function with the alternative having the highest value being chosen (Kahneman and Tversky 1979). In the initial, or editing phase, the outcomes are framed. The decision frame is defined as the individual's understanding or image of the outcomes related to a prospect (Tversky and Kahneman 1981). Depending upon an individual's specific point of reference, an outcome may be viewed as either a loss or a gain. The presentation of the decision problem (as either a loss or a gain) can influence the decision; specifically, two equivalent alternatives can produce preference reversals by simply framing the problem differently.

Thaler (1985) stated that prospect theory's inclusion of a reference point facilitates explanation of the influence of framing effects in consumer choice. He further stipulated that Tversky and Kahneman's idea of framing permits a consideration of key marketing variables in the consumer choice arena. Thus, consumer choices can be impacted by whether they are framed as gains or as losses.

An example highlights the previous discussion concerning reference point and applies that discussion to the research at hand. Suppose the consumer was expecting to pay for an item today and then walk out of the store with the desired purchase. Upon arriving, he/she learns that the receipt of the good will actually be delayed for six weeks, for example. The comparison of six weeks to the "psychologically relevant comparison point" or reference point of "now" produces a negative (loss) evaluation. Suppose that another consumer expected to take delivery of a purchased good in six weeks, only to arrive at the store and learn that the item can be taken home today. The reference point was six weeks; thus, the immediate delivery was positively evaluated as a gain. Puto (1987) has stated that a crucial factor in the determination of the valuations of decision alternatives is the operative reference point.

In the TOV model, the decision or the point at which alternatives are compared and evaluated in the present serve as reference points. The consumer uses this reference point as a standard of comparison in determining when gains or losses occur. The outcomes that are evaluated can occur at three different points in time: (1) the present, a point in time in close temporal proximity to when the decision or evaluation is made; (2) the future, the situation in which the outcome occurs a long time after the decision/evaluation has been made; and (3) the past, a situation in which the evaluation occurs after the outcome occurred (Mowen and Mowen 1991).

Discounting

The concept of discounting is a cornerstone for the analysis of intertemporal choices (Loewenstein 1988). Discounting has been recognized in the marketing literature and has been examined relative to advertised price discounts (Gupta and

Cooper 1992). Discounting has been defined as the process by which a future outcome is assigned a new value (other than its stated objective value) that essentially translates that future outcome into a present value (Price 1993). A discount function is the "...ratio of the marginal utility of one unit of consumption in the future to that in the present" (Benzion et al. 1989). Discounting serves the purpose of making it possible to derive valuations that compare consumption outcomes between those occurring in the present and those that will occur in the future (Loewenstein 1988).

It has been stated that individuals do not always utilize monetary discount rates that are in line with prevailing market rates; instead, discount rates appear to be influenceable by size and sign of the amount of interest, time delays, decision framing, whether the outcome choice involves advancing or delaying, and any inherent anticipation or dread of outcomes (Loewenstein and Thaler 1989). A very basic element of discounting is that of time preference, defined as a preference for receiving a good immediately as opposed to waiting for a period of time (Björkman 1984). Discounting assumes that positive time preference diminishes the present utility of future events. In other words, goods that are to be received in a remote temporal period are systematically assigned a value that is, in reality, less than the actual future value; indeed, future losses and gains have a lower value to individuals than those incurred in the present "...simply because they are futur" (Böhm-Bawerk 1923, page 253).

As noted by Olson and Bailey (1981), the work of Böhm-Bawerk (1923) provided two assumptions of intertemporal choice with respect to discounting: (1) diminishing marginal utility of consumption; and (2) discounting of future utility when compared to present utility. Support for Böhm-Bawerk's (1923) assumptions was

provided through empirical evidence that demonstrated the existence of a positive time preference (Olson and Bailey 1981). Time preference (preference for present utility over future utility) was defined by Olson and Bailey (1981) as the positive value of a constant, subjective discount rate. Fisher (1930) described time preference in terms of the greater present marginal desire for an additional unit of a present good over present marginal desire for an additional unit of a future good.

The notion of discounting explains the lower valuation of future outcomes when compared to those that occur in the present; more simply stated, a preference exists for more inferior outcomes to superior ones when the outcomes are occurring in the present as opposed to a future time. Indeed, discounting implies that the future events and outcomes are less important than those occurring in the present (Price 1993). Such behavior has been described through the mechanism of a discount function that takes the form of "...a curve that is more deeply bowed than economists' familiar exponential curve" (Ainslie and Haslam 1992, page 58).

Following the pattern of Christensen-Szalanski and Northcraft (1985), an example is offered to illustrate the way in which discounting works. The value that an individual places on a consumer good can be influenced by the time of receipt of that good. Intuition suggests that a person would generally prefer to receive a consumer good now as opposed to waiting one year. Suppose the consumer good had a value of $1100. The good received in one year is of less value or consequence to that person because he/she could have had the use of the good during the twelve months. If prevailing annual interest rates are ten percent, the consumer good received in one year has a discounted value or value at the present time of $1000. Thus, if the individual is applying prevailing market interest rates, the good of interest has more value if it is

received now than if it is received in one year. The TOV model views individuals as evaluating outcomes as though they are occurring now and subsequently discounting these outcomes by a time dependent discount rate.

TOV Assumptions

The TOV is based upon several assumptions that are critical to the present work (for a more comprehensive discussion of the development of these assumptions, see Mowen and Mowen 1991). The first three are based on the hypothetical value function of the TOV model (see Figure 1) and are closely related to prospect theory:

Assumption 1. Positively framed outcomes are expressed in the gain quadrant via a concave shaped line, and negatively framed outcomes are expressed in the loss quadrant via a convex shaped line.

Assumption 2. The net valuation of a prospect results from the differences in the valuation of gains and losses that could occur.

Assumption 3. For outcomes that occur in the present, losses are valued relatively more heavily than gains.

The TOV assumptions that handle the element of time in the valuation of gains and losses of decision outcomes are derived from Miller's work on approach-avoidance gradients (1959):

Assumption 4. Individuals have negative discount rates resulting in decision myopia. Thus, short term gains or losses are given more weight than gains or losses occurring in the future.

Assumption 4a. Discounting of gains and losses is relatively rapid at first and then slows with the passage of time.

Assumption 5. The discount rate for losses is greater than the discount rate for gains.

Assumption 5 states that losses are discounted at a rate that is greater than that for gains. In risky intertemporal decisions, Shelley (1994) found that gains and losses are discounted divergently and a higher discount rate is utilized for losses than for gains; losses are discounted at a higher rate than gains, in support of Assumption 5. However, previous studies have asserted the converse. In the Benzion et al. (1989) study, the results indicated that discount rates were larger for postponing a receipt than those for postponing a payment. These researchers asserted that discount rates for gains were larger than for losses. Thaler's (1981) work as well as that of Loewenstein and Thaler (1989) produced evidence that led them to conclude that discount rates are higher for gains than for losses. These scholars believed that the postponing of a receipt was a gain and the postponing of a payment was a loss. More recently, Ahlbrecht and Weber (1997) found that gains and losses are not discounted differently in a matching condition. However, as stated by these scholars, this supports Shelley's (1993) findings that the gain-loss asymmetry is due to reference point shifts.

Mowen and Mowen (1991) argued that respondents frame the postponing of a receipt as a loss and the postponing of a payment as a gain. In light of this argument, the results of Shelley (1994), Benzion et al. (1989), Loewenstein and Thaler (1989), and Thaler (1981) converge to support the greater discounting of losses than gains. Assumption 6 deals with the framing issue:

Assumption 6. The loss or postponement of a gain is framed as a loss. The avoidance or postponement of a loss is framed as a gain. Similarly, expediting a receipt is framed as a gain, and expediting a payment is framed as a loss.

The last assumption deals with positive and negative decision outcomes occurring at different points in time:

Assumption 7. Gains and losses may occur at different points in time.

Summary

The TOV models the influence of time and outcome valuations on consumer decisions and will serve as the theoretical basis for the hypotheses in the studies that follow. Specifically, it proposes that gains and losses can occur at different points in time, gains and losses are valued differently, the postponement of a gain (receipt) is framed as a loss while the postponement of a loss (payment) is framed as a gain, and the discounting of gains and losses is rapid at first and slows with the passage of time.

CHAPTER IV

STUDY I

Introduction

Benzion et al. (1989) suggested that the ability to "imagine the future" was a potential influencer of individual discounting of the value of intertemporal outcomes (page 283). According to the TOV, individual differences in discount rates exist across the domains of gains and losses. The gains can be viewed in a consumer setting as delayed payments or advanced receipts of goods, while losses can be viewed as delayed receipts of goods or advanced payments. To date, there are no scales that permit evaluation of time orientation relative to the valuing of consumer outcomes representing gains/losses at different points in time. It is important from an academic point of view to measure these differences in time orientation to enlarge the understanding of individual differences in outcome valuations; it is also important from a managerial perspective to provide insight into the differing consumer valuations as decisions are made regarding promotions and marketing strategy. Thus, the purpose of Study I is to develop a scale that can assess individual differences in time orientation in a marketing context. In addition, the study examines this scale in relationship to time orientation, impulsivity, locus of control, and a concern for body dimension.

Various scales have previously been developed in the psychology and consumer behavior literatures to measure time orientation, giving evidence of the importance of

this construct. The Circles Test was developed to measure the relatedness of the past, present, and the future as well as the temporal dominance of a zone by examining the arrangement and size of circles drawn by subjects (Cottle 1967). In an investigation into the role of personality on the behavior of consumers, researchers (Settle et al. 1978) employed an individual time orientation scale composed of four related dimensions or personality traits: focus, activity, structure, and tenacity. The Gjesme (1979) scale suggested four factors of future time orientation: involvement, anticipation, occupation, and speed. Jason et al. (1989) measured past, present, and future orientation by asking respondents to indicate how much time they spent thinking about each time period, both numerically and with percentages. Ko and Gentry (1991) found two unidimensional scales that represented past and future orientations.

Lin and Mowen (1994) developed and tested a cognitive-motivational model of time orientation comprised of the following four dimensions: (1) envisionality, which refers to an individual's ability to envision beyond present circumstances to either the past or the future; (2) causality, which is concerned with the ability to discern causal relationships among events experienced in different time periods; (3) preferential or the dimension of time orientation that involves an individual or a cultural emphasis on and preference for the past, present, or future time period; and (4) referential, which refers to the tendency to consistently use the past, present, or future as a point of reference.

The Consideration of Future Consequences Scale (CFC) was developed to explicitly address individual differences in concern with the impact of present actions on outcomes that will be experienced in the future (Strathman et al. 1994a, 1994b). It considers the balancing of present outcomes when compared to future outcomes. Strathman et al. hypothesized that how individuals balance present outcomes relative to

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future outcomes was a stable measure of individual differences. Individuals low in CFC will be more concerned with immediate outcomes and will move to satisfy these present needs and desires, while individuals high in CFC will regard future events as important in determining present behaviors.

Amyx and Mowen (1995) developed a future and present-time oriented scale that was specifically designed to address measuring the time orientation construct in a marketing context. However, this scale had an alpha of 0.66 and contained items that focused on when money is spent and when the individual thinks about the consequences. These scholars issued a call for further scale development and validation for this measurement.

The aforementioned scales offer much in the way of understanding and measuring future and present-time orientations. However, they do not permit evaluation of time orientation relative to the valuing of outcomes representing gains and losses in a consumer behavior context, such as delayed payments or delayed receipts of goods. Thus, a vital task is the development and validation of such a consumer time orientation scale, the Exchange Time Horizon Scale.

Method

Definitions

The development of the Exchange Time Horizon Scale follows that suggested by Churchill (1979). The individual differences in time orientation are conceptualized in the following manner:

Payment Time Horizon. Consumers with a future payment time horizon are typified by a lack of concern about the future. These individuals do not weigh the future as

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much as outcomes in the present. Thus, they tend to make decisions about what is good now and take thought for the future later. Conversely, consumers with a present payment orientation are concerned with future consequences.

Receipt of Goods Time Horizon. Individuals with a future receipt of goods time horizon are characterized by a tendency to be concerned with the future and delay purchases if it is in their best interests. These consumers weigh the future very similarly to events occurring in the present. Thus, future events are important and are considered in the present. Conversely, consumers with a present receipt orientation are concerned with immediate gratification and give less thought to the future outcomes.

Construct Validation Hypotheses

In order to assess the construct validity of the Exchange Time Horizon Scale, the questionnaire also includes the Time Orientation Scale (Amyx and Mowen 1995), Rook and Fisher's (1995) Impulsivity Scale, and Paulhus's (1983) Spheres of Control Scale to assess convergence with other similar constructs and the Concern for Body Scale (Mowen and Spears 1998) to assess divergence with measures not deemed to be similar. Hypotheses are proposed relating each of these scales to the Exchange Time Horizon Scale.

Because time orientation and time horizon both tap individual orientation toward the element of time, it is expected that these constructs will be significantly correlated:

H1:   Time orientation (Amyx and Mowen 1995) will be significantly

correlated with the Exchange Time Horizon Scale.

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Concern for body should be uncorrelated with the timing of payments and receipts of consumption goods since these are very different activities:

> H2:   Concern for body (Mowen and Spears 1998) will not be correlated with paying or receiving time horizon.

Rotter (1966) reported that individuals that are high in internal control are more likely than low internals to be concerned with "...aspects of the environment which provide useful information for his future behavior" (page 25). The following hypothesis addresses this issue:

> H3:   Locus of control is negatively correlated with payment time horizon and uncorrelated with receipt of goods time horizon.

Strotz (1956) viewed impulsiveness as characterized by a tendency to discount future events because they are a temporal distance away from the present. The impulse buyer is likely to discount the consequences of his/her actions in an impulse to purchase now (Rook 1987). Thus, it is likely that a low impulse individual is more concerned with the future and has a higher future orientation:

> H4:   Impulsivity is positively correlated with payment time horizon and negatively correlated with receipt of goods time horizon.

Item Generation

Eleven items were generated to serve as the initial pool. Items for the scale were either modified from previously developed scales or the items were developed by the researcher. Items adapted from other work included the Strathman et al. (1994a, 1994b) Future Consequences Scale and the Amyx and Mowen (1995) Time Orientation

Scale. Items developed by the researcher were motivated by the work of Mowen and Mowen (1991). The eleven statements that were initially generated were pretested on 174 marketing students. When inadequate results were produced, additional items were generated by the researcher through interviews with two store managers, two non-students, two focus groups comprised of undergraduate marketing students, and a marketing professor. These interviews specifically addressed delaying/advancing receipts and delaying/advancing payments. Negatively worded items were dropped (see Schriesheim and Eisenbach (1995) for a thorough treatment of the effects of negative wording).

Finally, total of eighteen items were generated that tapped payments and receipts of consumer goods. A questionnaire was developed containing the eighteen items and 7-point Likert scales with endpoints of "strongly disagree" (1) and "strongly agree" (7).

<u>Procedure</u>

The questionnaire was administered to a sample of 203 college students attending undergraduate marketing classes at a major mid-western university during regularly scheduled classes.

The questionnaire packet contained the eighteen items generated for measuring time horizon, the Amyx and Mowen (1995) Time Orientation scale, the Concern for Body Scale (Mowen and Spears 1998), Rook and Fisher's (1995) Impulsivity Scale, Paulhus's (1983) Spheres of Control Scale (the Personal Efficacy Scale), and certain demographic questions (i.e., age, sex, and ethnic background). All scales are found in Appendix A.

Results

Purification: Study I

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy stood at .74, and

Bartlett's Test of Sphericity was significant. These test results indicate the

appropriateness of using factor analysis on the data. A maximum likelihood extraction

with varimax rotation was utilized with the eigenvalue greater than one default. The

scree plot clearly indicated a two-factor solution. Since this was in agreement with the

a priori belief of the presence of two factors, a two-factor model with maximum

likelihood extraction and varimax rotation was run. Through an iterative process,

items with extremely low loadings on both factors were removed and the analysis

rerun. Finally, only items with loadings exceeding .45 were retained for a reliability

analysis. These two factors yielded a cumulative total variance explained of 64%.

The items in these two factors were then subjected to a reliability analysis.

The items for the first factor were representative of a payment orientation, and this

factor was labeled payment time horizon. These items had an alpha of .86. The items

for the second factor were those representing a receipt of goods orientation, and this

factor was labeled receipt of goods time horizon. These items had an alpha of .63.

Item descriptions and factor results can be found in Tables IV and V.

Reliability of Scales

The Amyx and Mowen (1995) Scale contains seven items measuring when

purchases or payments are preferred and when consequences are considered. This

scale had an alpha of 0.67. The body scale had six items asking respondents to

indicate how interested they are in attending to their body and produced an alpha of

0.88. Rook and Fisher's (1995) Impulsivity Scale has nine items measuring buying impulsiveness. The scale had an alpha of 0.90. Paulhus's (1983) Personal Efficacy Scale is comprised of 10 items measuring the extent of locus of control. Internal reliability was 0.52.

<u>Results of Construct Validation Hypotheses</u>

To assess the construct validity of the exchange time horizon scale, hypotheses were proposed dealing with correlations with other constructs such as body orientation, time orientation, locus of control, and impulsivity.

Since the Amyx and Mowen (1995) time orientation scale and the time horizon scale both tap individual orientation toward time, they were expected to be significantly correlated (H1). This prediction was supported since the payment time factor was correlated with time orientation by a significant .43 (p<.01), and the receipt of goods factor was correlated with time orientation by a significant -.38 (p<.01) (see Table VI).

The body construct was expected to be uncorrelated with a receipt of goods and payment time horizon (H2). While the payment factor was uncorrelated with body, the receipt of goods factor was significantly correlated with body (r=.17, p<.05), partially supporting Hypothesis 2.

Hypothesis 3 was supported for the time horizon scale (see Table VI). Locus of control was negatively correlated with payment horizon (r=-.20, p<.01) and uncorrelated with receipt of goods horizon (r=.02). That is, high internals tend to be more concerned with the future and think about and plan their purchases more

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carefully. Conversely, the high externals are more prone to spend now and worry about consequences later.

Hypothesis 4 was supported for the time horizon scale (see Table VI). Impulsive was positively correlated with payment horizon (r=.44, p<.01) and negatively correlated with receipt of goods horizon (r=-.37, p<.01). High impulse individuals are more likely than low impulse consumers to spend and buy things on credit and be concerned later. Likewise, high impulse individuals are much less likely to shop around to get a better deal and are more likely to just take what is on the shelf.

Discussion of Study I Findings

Acceptable psychometric properties were demonstrated through an assessment of both the reliability and the construct validity of the exchange time horizon scale. While the receipt of goods factor is adequate for exploratory work with a coefficient alpha exceeding 0.60 (Nunnally 1967), the payment factor was adequate for both exploratory and confirmatory work. One note of caution must be added to the discussion on the receipt factor. The items that emerged from purification were very similar to those dealing with information search. Thus, the usefulness of this factor remains in question.

Establishment of the factors included item generation and purification, reliability analysis, and construct validation through examination of correlations with other constructs. While evidence of two factors representing a consumer time horizon has been demonstrated, the receipt of goods factor requires much strengthening

through future work. The payment factor, however, performed adequately. In general, the scale exhibited evidence of relating to other constructs as predicted.

One interesting finding is the significant relationship of to concern for body with receipt. The more an individual tends to take time or be careful to shop around in order to get good prices and the features they really want, the more likely they are to be concerned with the care of their body. Perhaps a higher order construct is indicated that could be described as being careful or concerned with outcomes occurring in the future. These individuals appear to give thought to how present activities will affect their future physical and financial well-being.

The results further indicated that high impulse individuals are more likely than low impulse consumers to spend and buy things on credit and be concerned later; high impulse individuals are also much less likely to shop around to get a better deal and are more likely to take what is on the shelf so that they can have the item immediately. High impulse consumers are more likely to buy whatever they want, charge it, and worry over these consequences later. Conversely, the low impulse person is weighing their present actions carefully against future consequences.

Additional findings indicated that high internals tend to be more concerned with the future and thoughtfully plan their purchases and how they will pay for them. Consumers who believe that their ability, hard work, and effort causes them to achieve success are less likely to be heavy users of credit cards. Conversely, the high externals are more prone to buy immediately and let the future take care of itself. Likewise, they are also more likely to delay payments until some future time through the use of credit.

TABLE IV
STUDY 1: DESCRIPTIONS FOR EXCHANGE TIME HORIZON

Payment Time Horizon

1. I like to pay cash rather than use a credit card (R).
2. I usually save up until I can pay cash for an item that I want (R).
3. I buy a lot of things on credit.
4. I use my credit card a lot.
5. I usually buy things I want immediately and think about how I will pay for them later.

Receipt of Goods Time Horizon

1. I usually buy whatever item the store has on hand rather than shop around (R).
2. I would wait several weeks to get the item with all the feature I want.
3. I always shop around to get a better price.

TABLE V
STUDY I: EXPLORATORY FACTOR ANALYSIS RESULTS
ROTATED FACTOR PATTERN FOR PAYMENT AND
RECEIPT OF GOODS FACTORS

Items	Payment	Receipt of Goods
	IS*	IS*
Factor Loadings		
1.	-.77	
2.	-.47	
3.	.93	
4.	.98	
5.	.57	
1.		-.53
2.		.55
3.		.84
Alpha	.86	.63
% of Total Variance	.41	.23

*IS = Study I Students

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TABLE VI
STUDY I: CORRELATIONS FOR CONSTRUCT VALIDITY

	Payment	Receipt	Time Orientation	Body	Locus	Impulsive
Payment	1.00					
Receipt	-.11	1.00				
Time Orientation	.43**	-.38**	1.00			
Body	-.13	.17*	-.09	1.00		
Locus	-.20**	.02	-.14	.26**	1.00	
Impulsive	.44**	-.37**	.75**	-.13	-.19**	1.00

* p<.05
**p<.01

CHAPTER V

STUDY II

Introduction

Promotional campaigns often include such enticements as "buy now, payment begins in ninety days," "limited time only," "buying insurance now can save you later," and "our company promises fast, dependable service." The consumer is often faced with decisions between obtaining a desired good now and making immediate payment or forestalling payment, paying a little more for goods or services from a company that will deliver faster than one that will have later delivery, and planning on being seated immediately in a movie, restaurant, or airplane only to be told that the service will be delayed and choosing between going elsewhere or being compensated for the wait. Clearly, expediting or delaying losses (payments) and gains (receipts) have important implications for marketing and promotional strategy.

Study II addresses these issues and is a conceptual replication and extension of the Benzion et al. (1989) research. Benzion et al. (1989) called for studies that "...ask subjects to evaluate the present worth of receiving in the future both money outcomes and real consumption goods" (page 283). This study also seeks to establish external validity and perform a confirmatory factor analysis on the Exchange Time Horizon Scale developed in Study I.

An experiment is conducted that closely follows the Benzion et al. (1989) study. Unlike the Benzion et al. research, Study II takes place in a marketing context. It extends the Benzion et al. (1989) work by examining individual differences in outcome valuation. The Benzion et al. (1989) study surveyed two hundred and four economics and finance students in an experiment involving intertemporal choice in decisions regarding receipt of a salary or repayment of a loan. The experiment was a 4 X 4 X 4 factorial design: scenario (postponing a receipt, postponing a payment, expediting a receipt, expediting a payment), time delay (0.5, 1, 2, and 4 years), and amount of cash ($40, $200, $1000, and $5000). The purpose of the study was to examine how individuals discount temporally remote gains and losses and to compare these discount rates to those predicted by traditional models of intertemporal choice.

Four hypotheses were derived to test the behavior of the discount function: (1) the classical approach states that the discount rate is uniform for all individuals in all situations and is the same as the market discount rate; (2) the market segmentation approach stipulates that discount rates will be determined by change in position (delay/expedite receipts or delay/expedite payments) but are orthogonal to time delays and size of cash flows; (3) the implicit risk approach posits that delayed losses are preferable to immediate ones and that immediate positive outcomes are preferable to delayed ones because of the element of uncertainty and the attendant risk; and (4) the added compensation approach implies that individuals must be compensated with a premium for delay of a receipt but will be willing to pay a premium to delay a payment. Furthermore, the premium will be positive for delaying a receipt/payment and negative for speeding up a receipt/payment.

Subjects were given four scenarios (delay/advance a receipt/payment), and they were asked to provide an amount of money which would make them "...indifferent between" paying/receiving a specified cash amount immediately or at differing time delays (page 275). The study employed a within subjects design wherein the respondents answered sixteen questions per scenario across the four scenarios. Discount rates were calculated from each of the sixty-four answers per subject.

The findings indicated that the discount rates are very high for the small cash amounts and approach prevailing market interest rates for the larger cash amounts. Means were higher for the delay a receipt scenario than for the delay a payment scenario; means were higher for the advance a payment scenario than for the advance a receipt scenario. Significant effects were found for time, sum, and a time by sum interaction for all four scenarios. Additionally, discount rates decreased with time and at a decreasing rate. Evidence supported the implicit risk and the added compensation approaches. In sum, the Benzion, et al. (1989) research team concluded that discount rates: (1) decrease with time; (2) are inversely related to cash amount; and (3) are smaller for losses than gains.

The present study extends the Benzion et al. (1989) work by examining individual differences in outcome valuations. Various studies have demonstrated that discount rates do not remain constant over time but are actually temporally diminished (Thaler 1981; Benzion et al. 1989; Shelley 1993, 1994). Shelley (1994) states that at least a portion of the explanation for the declining discount rates could be attributable to "...rate estimates that include both one-time risk rate and the time preference discount rate" (page 147). Strotz (1956, page 177) stated that:

> The many schemes for instalment [sic] buying (notably of
> used automobiles in the U.S.) which require "no down
> payment and nothing due for two months" are evidence
> of the effectiveness of enticements of this same kind.
> Indeed, all purchases on credit can be viewed as
> precommitments that often (although not always)
> exchange future costs for a present pleasure. My own
> supposition is that most of us are "born" with discount
> functions of the sort considered here...

The idea of individual differences in discount rates is not a new one.

Böhm-Bawerk (1923) maintained that the three causes for the undervaluing of future

outcomes (inability to completely and accurately imagine the future, fallibility of the

human will in making wise choices, and uncertainty regarding the future) exhibit very

different manifestations in different persons because of individual predispositions. In

other words, discount rates are diminished over time but at different rates for different

individuals.

Numerous factors have been put forth as influencing an individual's discount

rate. Fisher (1930) proposed that individual impatience rates should be impacted by

age, income (amount, distribution over time, composition, and probability), marital

status, and six individual traits: foresight (inverse relationship between foresight and

impatience), self-control (exercise of the will), expectation of life (long or short life

expectancy), habit (level of adaptation), fashion, and the influence of individuals in

society. Thaler and Shefrin's (1981) planner-doer model predicts that the same factors

that impact rates of impatience will also affect individual marginal rates of time

preference (individual discount rates).

Various studies have produced results that have demonstrated the presence of

individual differences. Empirical evidence for the existence of individual discount

rates was provided by Hausman (1979). In this study, discount rates (average of twenty-five percent) inferred from purchases of a consumer durable (air conditioner) were well above prevailing market interest rates and variations across income levels are not attributable to merely the relevant interest rate (Thaler and Shefrin 1981). Likewise, Gately (1980) calculated implicit discount rates in a tradeoff between initial cost and monthly operating cost for refrigerators. He found an average discount rate of 127.5% (ranging from forty-five percent to three hundred percent).

Benzion et al. (1989) found significant correlations between individual discount rates both within and between the advance/delay a gain/loss scenarios. The existence of "...large individual differences in the implicit discount rate" support their assumption "...that the subjects' responses in the present study reflected individual utilities rather than merely an interest rate (which is uniform)" (pages 282-283). Benzion, et al. (1989) asserted that subjective discount rates depend on factors that determine marginal rates of substitution between current and future consumption situations. These factors may include individual time preferences, such as short-term orientation or long-term orientation. In other words, one individual will value gains and losses occurring over time differently than another individual. They called for additional work to more finely discriminate between individual utility based and financial market explanations. Study 2 seeks to explicitly examine individual differences that mold the individual utility function.

The results of Shelley's (1994) research indicated the presence of individual differences in discounting during a lottery study in the immediate subjective versus the two-year subjective value case. One of the respondents (out of thirty total)

demonstrated minimal discounting with an even discounting pattern across gains and losses; other subjects were more sensitive to losses and discounted them at a higher rate than gains. However, this study did not explicitly examine individual difference variables relative to discounting of outcomes.

Individual predispositions have the potential to influence the temporal behaviors of the person who is making some judgment or valuation (Doob 1971). Clearly, then, there is need for an examination of individual differences in regard to the matter of time and the valuation of outcomes. Four individual difference variables have been selected for inclusion in Study II, and the rationale for these choices will be clarified below: (1) demographic variables; (2) time horizon; (3) impulsivity; and (4) locus of control.

Hypotheses Development

The TOV proposes a three stage process through which people move in deciding how much more/less they are willing to receive/pay when gains and losses occur at various points in time. The process begins with converting the actual value into psychological value in the time period that the outcome had been expected. Then, the psychological value from expected time period is translated into psychological value of the actual time period in which the outcome will occur. And, finally, this psychological value is changed into actual value, which is the amount that makes them indifferent between outcomes.

Figure 1 (refer to Appendix C) illustrates this three stage process. The hypothetical value function labeled "t_0" represents the value of outcomes occurring in the present whereas the function labeled "t_1" represents the discounting of outcomes

occurring in the future. It is shallower than the present function due to the discounting of future events, with the future curve in the loss domain (third quadrant) being shallower than the future curve in the gain domain (first quadrant). The points +/- $4000 on the X axis represent the initial actual value of a gain or loss.

Assumption 5 of the TOV proposes that the discount rate for losses is greater than the discount rate for gains. Assumption 6 states that the loss or postponement of a gain is framed as a loss; the avoidance or postponement of a loss is framed as a gain. Similarly, expediting a receipt is framed as a gain, and expediting a payment is framed as a loss. In comparing the "delay a gain" scenario with the "delay a loss" scenario, begin with -$4000 in the loss domain for pictorally representing "delay a gain" (see Figure III in Appendix C). Drop a vertical line down to the "t_0" function; then, draw a horizontal line from this point to intersect the "t_1" hypothetical value function (even though this intersection is not shown on the graph, the lines will eventually cross). Then, draw a vertical line up to the X axis. This point (the desired value or DV) will be the value that will make the individual indifferent between the outcome now or the future. The distance from $4000 to the DV is the amount that a person would want to be compensated for the delay of the gain.

The same steps are followed for "delay a loss." Since delaying a loss is framed as a gain, one works from the gain domain and draws a vertical line from +$4000 up to the "$t_0$" curve. Then, a line is drawn horizontally to the right until it intersects the future value function ("t_1"); a line is dropped down to the X-axis. This point represents the desired value that will make the person indifferent between the outcome now versus later. The distance from $4000 to this DV is the amount an individual

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would be willing to pay to delay a loss. Because losses are discounted faster than gains, the curves are farther apart in the loss domain than in the gain domain. Thus, the distance from $4000 to the desired value of delaying a gain is larger than that from $4000 to the desired value of delaying a loss. Geometrically, these arguments can be proven (see Figure II in Appendix C for proof).

As noted in the beginning of the section, the valuation process begins with the actual dollar amount on the X-axis. The consumer converts this dollar amount into psychological value (on the Y-axis) in the time period that the outcome had been expected. Then, the psychological value from the expected time period is translated into psychological value (again, on the Y-axis) of the actual time period in which the outcome will occur. The final step is converting this psychological value on the Y-axis into actual value on the X-axis. While the proof demonstrated that the psychological value for "delay a gain" (line segment AB on the Y-axis) is greater than the psychological value of "delay a loss" (line segment AE on the Y-axis), such a conclusion directly implies that the actual dollar amount on the X-axis for "delay a gain" is greater than the actual dollar amount on the X-axis for "delay a loss". In other words, the change from $4000 will be greater for "delay a gain" than for "delay a loss" or "delay a gain" > "delay a loss."

The following hypothesis is suggested (Figure III, Appendix C):

H1:   The amount of money that consumers will charge for delaying a

gain (the amount they want the store to give them for the wait)

is greater than the amount consumers will give to delay a

payment (amount of interest they are willing to pay).

A similar procedure is followed for comparing the "delay a gain" and the "advance a loss" scenarios. For "advance a loss," start with -$4000, drop a vertical line to intersect the "t_1" (future) curve; draw a horizontal line to the right to the "t_0" (present) curve. Then, a vertical line is drawn up to the X-axis. Referring to Figure IV (Appendix C), it is clear that the distance from -$4000 to the desired value for "delay a gain" is greater than the distance to the desired value for "advance a loss." This is reasonable since the "present" and future curves are spreading apart as they move away from the Y-axis. The change from $4000 is greater for "delay a gain" than for "advance a loss" or, stated another way, "delay a gain" > "advance a loss." Geometrically, this argument could be proven in a manner similar to that for Hypothesis 1. Thus, Hypothesis 2 is offered (Figure IV, Appendix C):

H2:   The amount that consumers will charge for delaying a gain (the amount they want the store to give them for the wait) is greater than the amount consumers will charge for advancing a payment (the reduction in price consumers would like to receive as incentive for early payment).

In comparing "advance a loss" with "advance a gain" (see Figure V in Appendix C), one begins at +$4000 to find the desired value for advancing a gain. Move from the +$4000 point upward to the 't_1" curve (future); draw a horizontal line to the "t_0" function (present) and down to the X-axis. Upon observing Figure V, it is easy to see that the distance from -$4000 to the desired value for advancing a loss is larger than the distance from +$4000 to the desired value for advancing a gain. This is intuitive because the present and future functions move apart more rapidly in the loss domain than the gain domain. This occurs because losses are discounted faster

than gains. The change from $4000 to the desired value will be greater for "advance a loss" than for "advance a gain." These ideas could be geometrically proven in a manner similar to that for Hypothesis 1. Hypothesis 3 states (Figure V, Appendix C):

> H3: The amount of money charged for advancing a payment (the reduction in price consumers would like to receive as incentive for early payment) is greater than the amount of money that consumers are willing to pay extra to get early delivery of the good of interest (advancing a gain).

A comparison can also be made between "delay a loss" and "advance a gain." Both of these conditions occur in the gain domain. Because of the moving apart of the functions (Figure VI, Appendix C), the horizontal line drawn to the right in "delay a loss" is longer than the horizontal line drawn to the left in "advance a gain." The change from $4000 will be greater for "delay a loss" than for "advance a gain" or "delay a loss" > "advance a gain:"

> H4: The amount of money given to delay a payment (amount of interest that the consumer is willing to pay) is greater than the amount of money that the consumer is willing to pay extra to get early delivery of the good of interest (advance a gain).

Individual Differences in Valuation

Demographic Variables. Mischel and Metzner (1962) found that a preference for a delayed reward had a strong positive relationship with age. The Hausman (1979) study found a negative relationship between income and discounting. Thus, it appears

likely that demographic variables such as age and income have an influence on the valuation of outcomes. Because of the difficulties encountered when asking an income question, occupation will be utilized as a surrogate for income.

There is "strong evidence" that people maintain their discount rate relative to others over time (Benzion et al. 1989, page 277). From the perspective of the TOV, the hypothetical value function for individuals differing by occupation and age should be different. Specifically, the younger respondents as well as the lower income groups should exhibit steeper curves than older respondents and higher income groups because of the heavier discounting of both gains and losses. The following hypotheses are derived:

H5: The lower income group will have larger valuations than the higher income group (with occupation serving as a surrogate for income).

H6: Income group influences changes in valuation across time periods:

a. The higher income group will have a smaller change than the lower income group in monetary value from T_1 (3 months) to T_2 (6 months).

b. The higher income group will have a smaller change than the lower income group in monetary value from T_2 (6 months) to T_3 (9 months).

H7: The younger age group will have larger valuations than the older age group.

Time Orientation. Evidence of an interaction between framing of consequences and the concern with future consequences (CFC) has been found (Strathman et al. 1994b). Specifically, in an advertising context, messages discussed the advantages and disadvantages of increased off-shore oil drilling. Order and framing of consequences were manipulated in the following fashion: (1) either the advantages (gains) or the disadvantages (losses) of the drilling were first; and (2) the advantages were framed as either immediate or delayed. Respondents low in CFC were more in favor of increased off-shore drilling when the gains were immediate and losses were delayed; conversely, subjects high in CFC were more in favor of increased off-shore drilling when the losses were immediate and the gains were delayed. This study demonstrated that orientation toward time influences valuations of positive and negative outcomes across time.

In a cognitive-motivational model, Lens and Moreas (1994) advanced two components in individual future time perspective (De Volder and Lens 1982): (1) a cognitive element, which relates to an ability to envision long-term consequences; and (2) a dynamic aspect, which involves an underestimation or discounting of the value of delayed gains and losses when compared to those occurring in an immediate time frame. Lens and Moreas (1994) used these two factors to explain individual traps and fences.

It seems likely, then, that individuals with a future orientation are more likely to imagine consequences in the future and to simultaneously discount these more temporally remote outcomes to a lesser degree than someone with a present orientation. That is, relative to losses (delayed gains or advanced losses), future

oriented individuals are more concerned about how their future is affected by what they do now. They are concerned with how their actions in the present will impact their future financial position as well. Indeed, Amyx and Mowen (1995) found that individuals that are more concerned with the present like to defer payments while consumers concerned with the future like to pay immediately.

Relative to gains (delayed losses or advanced gains), future oriented individuals have a low need to have it all immediately (low gain orientation). They do not delay losses excessively through credit plans, but instead, prefer to make payments now. This is because the future is not so highly discounted. In contrast, the high gain oriented person wants it all immediately and will worry about how to pay for it later. This is because the future losses are highly discounted and do not seem so imminent.

In terms of the TOV, the hypothetical valuation curves should be different for present and future oriented individuals. Specifically, the respondents that are more present oriented should exhibit steeper curves because of the heavier discounting of both gains and losses. The following hypotheses are derived:

H8:   Individuals with a future payment horizon will have higher valuations than individuals with a present payment horizon.

H9:   Individuals with a future receipt of goods horizon will have lower valuations than individuals with a present receipt of goods horizon.

H10:   Time horizon influences changes in valuation across time periods:

a.   Individuals who prefer to delay payment will have a larger change in valuation than individuals who prefer to pay now from T_1 (3 months) to T_2 (6 months).

b.   Individuals who prefer to delay payment will have a larger change in valuation than individuals who prefer to pay now from T_2 (6 months) to T_3 (9 months).

c.   Individuals who can delay receipt of goods if they feel it is in their best interest will have a smaller change in valuation than individuals who do not like to delay receipt of goods from T_1 (3 months) to T_2 (6 months).

d.   Individuals who can delay receipt of goods if they feel it is in their best interest will have a smaller change in valuation than individuals who do not like to delay receipt of goods from T_2 (6 months) to T_3 (9 months).

Impulsivity. Within the framework of the TOV, time-inconsistent preferences result from an asymmetrical discounting of gains and losses and from the proposition that gains and losses can occur at divergent points in time. Desire can be viewed as driven by the appeal of the positive outcomes (gains) of a decision, and willpower is related to the negative consequences (losses) of that decision. In the Hoch and Loewenstein (1991) model, a consumer decision derives from a balance of desire and willpower. In the TOV, a consumer decision derives from the integrating of gains and losses relative to the decision.

It is clear from the literature that an individual who is consistently unable to delay gratification or one who habitually makes time-inconsistent choices will systematically value outcomes across time differently than the person who is more prone to delay gratification. If an individual is more likely to accept smaller, short-

term positive consequences in the place of a better, positive long-term outcome or to desire a gain now rather than a gain in the future, he/she is likely to have a higher rate of discounting of future gains than a low-impulse person. Thus, the high-impulse individual is likely to place a greater value on receiving a gain now as opposed to waiting for a period of time to receive it.

From the perspective of the TOV, because of the discounting of future gains, consumers prefer to have a gain in the present rather than in the future. A high-impulse individual is likely to have a higher operative discount rate than a low-impulse person. This high-impulse consumer is likely to indulge his/her immediate impulses to purchase as opposed to waiting, searching, planning, and delaying the purchase until a future time period. That person is likely to seek to shorten the interval between the decision and the outcome.

The hypothetical value function curves for individuals differing by impulsivity should be different. Specifically, the high-impulse respondents should exhibit steeper curves because of the heavier discounting of both gains and losses. The following hypotheses are derived:

H11: High impulse individuals have higher valuations than low impulse individuals across all scenarios.

H12: Impulsivity influences changes in valuation across time periods:

a. Low impulse individuals will have a smaller change in valuation than high impulse individuals from T_1 to T_2.

b.   Low impulse individuals will have a smaller

change in valuation than high impulse individuals

from T_2 to T_3.

Locus of Control. Rotter (1966) found evidence indicating that internal locus

of control individuals are more likely to be attentive to how present behaviors will

impact future outcomes. Thus, internal locus of control consumers have a greater

concern with the affairs of the future than external locus of control individuals.

Internal locus of control individuals have a longer time perspective and hence are more

likely to envision and plan for the future. Because they have a clearer vision of the

future, they are likely to discount future outcomes at a lower rate than external locus

of control individuals.

From the perspective of the TOV, the hypothetical value function curves for

individuals differing by locus of control should be different. Specifically, the external

locus of control respondents should exhibit steeper curves because of the heavier

discounting of both gains and losses. The following hypotheses are derived:

H13:   External locus of control individuals have higher valuations than internal

locus of control individuals across all scenarios.

H14:   Locus of control influences changes in valuation across time periods:

a.   Internal locus of control individuals will have a smaller change

in valuation than external locus of control individuals from T_1 to

T_2.

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b.   Internal locus of control individuals will have a smaller change in valuation than external locus of control individuals from T_2 to T_3.

Method for Study II

<u>Experimental Design</u>

A 4 X 3 X 2 factorial design was used with four conditions (delay a gain, delay a loss, advance a gain, and advance a loss), time (3 months, 6 months, 9 months), and high and low levels of each of the individual difference variables (demographic, locus of control, impulsivity, and time horizon). This was a mixed design with two between-subjects factors (condition and individual difference variables) and a within-subjects factor (time). The manipulated variables were condition (advance/delay a loss/gain) and time (3 months, 6 months, and 9 months). Initially, the time variable was counterbalanced. However, the counterbalancing created severe problems and was eliminated. That is, the participants gave large numbers for 3 months and small ones for 9 months when 9 months was the first dependent measure and 3 months was the last measure (i.e., they were not attentive to the time period itself but instead were attentive to the order in which the time measure was collected). The dependent variables were monetary valuations and affective measures. A pencil and paper scenario was employed in which respondents were asked to imagine that they were purchasing a home entertainment center.

<u>Pretests</u>

The scenario manipulations underwent extensive pretesting and refinements. Early versions were subjected to two student focus groups and to two non-student subjects for evaluation as to readability and understandability. These subjects also assessed the product and its cost in terms of interest and applicability to the relevant audiences. After refinements were made from these focus groups, the revised versions were again subjected to a different focus group composed of students. As before, these students assessed the readability and understandability as well as product and price for relevance. Refinements were made as per the focus group suggestions. These scenarios were submitted to two retail managers to assess the reality of the conditions. Suggestions from these individuals were incorporated.

Pretests were administered to approximately 140 undergraduates in which the time measure was counterbalanced. The results indicated much confusion over the ordering of the time dependent measure. Since an amount of mental calculation had to transpire with providing valuations for different time periods, the respondents had great difficulty when 9 months was followed by 3 months, and finally 6 months, for example. The measures tended to be small and increase in size regardless of the ordering of the time measure (i.e., they were not attentive to the time period itself but instead were attentive to the order in which the time measure was collected). Thus, the time periods were changed and presented in the order of 3 months, 6 months, and 9 months for all scenarios. These pretest results were discarded and not used in the final analysis. Because of the confusion discovered in pretesting, counterbalancing the time measure was discarded in the main study.

<u>Participants</u>

One hundred-seventy-seven undergraduate marketing and psychology students were sampled from a large mid-western university during regularly scheduled class meetings. The majority of the non-student population consisted of consumers visiting a large retail store. A table was set up near the door, and customers were asked if they would like to participate. $2.00 was given as an incentive for participation. Some members of the non-student population were collected at a laundromat in a low income area of a large city. Visitors to the laundromat were approached as they did their laundry and were offered $2.00 to participate. Other members of the non-students were surveyed at a shelter for the homeless and a $2.00 incentive was again provided.

Of the 177 students, three were not useable due to omitted information. Of the 174 remaining respondents, five were eliminated because their responses were identified as extreme outliars. Of the 207 non-student participants, 206 were useable while one was omitted due to missing information.

In the student population, 35.2% were 18-20 and 61.4% were between 21 and 25. Of the non-student population, 8.2% were between 18-20 and 10.1% were between 21 and 25. The majority of the non-student population was between 41 and 50 (23.1%) with the next largest group being over 60 (21.6%). Of the students, 88.6% were single while 17.9% of non-students were single. 50% of students were female and 50% were male. 36.7% of non-students were male and 63.3% were female. Of ethnicity, 87.5% of students were Caucasian, while 85% of non-students were Caucasian. The next largest group of students was the Asian population standing at

8%, while the next largest group of non-students was the African-American population standing at 10.1%.

Procedure

In the student sample, individual difference variables were measured approximately ten days before the experimental portion was administered. In the non-student population, one packet containing the Exchange Time Horizon Scale, demographic information, and one scenario was administered to each individual. The difference in the data collections between students and non-students was because of efforts to minimize the length of time non-students would need to participate and because of the inability to revisit these subjects ten days later. All subjects in both samples were randomly assigned to treatment conditions.

The Independent Variables

Four conditions were depicted in scenarios that differed across postponing versus expediting and across losses versus gains: (1) delay a gain; (2) delay a loss; (3)advance a gain: and (4) advance a loss (please see Appendix B for the scenarios). Subjects were told that the product had been advertised and that they were going into the store today to make the purchase. They were also told that they had the money to buy the home entertainment center and to imagine that this was the store and the brand that they wanted to purchase. Expectations were set up about how they would pay or receive the good (pay now or later; receive now or later). When they went in to make the purchase, these previous expectations were changed from what the subjects originally thought would happen. Then, the respondents were asked to make

judgments about how much money would make them indifferent to paying/receiving at a different time than they had expected.

Time was expressed in terms of the length of time between the point of evaluation and the occurrence of the outcome and included three levels: 3 months, 6 months, and 9 months (T_1, T_2, and T_3).

Product was held constant and consisted of a home entertainment center containing a computer and a television, valued at $4000.

Blocking was done on the individual difference variables (demographic, impulsivity, exchange time horizons, and locus of control).

The Dependent Variables

Respondents were asked to indicate the amount of money that would make them indifferent between receiving/paying now or later, given an advertisement for a home entertainment center. Subjects provided three dollar amounts, one for 3 months, 6 months, and 9 months. The respondents were also asked to provide affective measures for each time delay including likelihood of making the purchase and four semantic differential ratings on their feelings toward the deal just described (good-bad, fair-unfair, believable-unbelievable, and honest-dishonest). For the analysis, these five measures were summed to form one scale for 3 months (alpha of .79 for students and .90 for non-students), one for 6 months (alpha of .84 for students and .92 for non-students), and one for 9 months (alpha of .85 for students and .94 for non-students).

Design Integrity Checks

To evaluate the assumptions involved in the experimental design, the respondents were asked to assess the scenario as a gain or a loss before they had the chance to aright the situation by naming their price. They were also asked to rate 3 months and 9 months on whether this is a long time or a short time. Both of these measures directly tested the manipulations involved in the design.

The Instrument (see Appendix A and B)

The questionnaire packet for students contained the Time Horizon Scale, the Amyx and Mowen (1995) Time Orientation Scale, the Mowen and Spears Body Scale (1998), Rook and Fisher's (1995) Impulsivity Scale, Paulhus's (1983) Spheres of Control Scale (the Personal Efficacy Scale), and certain demographic information such as age, ethnicity, and marital status. The scenario portion of the questionnaire, handed out approximately ten days later, contained one scenario followed by the valuation questions (one for each time period) and the affective measures (one set for each time period).

The packet for the non-students, given at one sitting, contained the Time Horizon Scale, one scenario followed by the valuation questions and the affective measures, and demographic measures such as age, marital status, number of children at home, and occupation.

Data Analysis

Because both dependent variables asked respondents to provide "...a number of stimuli using the same response scale," a repeated measures general linear model

analysis was employed (LaTour and Miniard 1983). Repeated measures was used for the within-subjects factor. *A priori* contrasts were used to assess predicted differences in means across conditions.

Results

External Validity: Study II

The generalizability of the Time Horizon Scale developed in Study I was assessed by administering it to the general public (see results in Table VII). Results of a maximum-likelihood extraction with varimax rotation exhibited a very similar but not exactly identical pattern of item loadings. For the payment factor, all items except for item #2 (i.e., "I usually save up until I can pay cash for an item that I want) and #5 (i.e., "I usually buy things I want immediately and think about how I will pay for them later") loaded adequately. For the receipt of goods dimension, item #1 (i.e., "I generally buy whatever item the store has on hand rather than shop around") did not load well. Thus, the scale exhibits a modest amount of external validity.

Internal Consistency, Convergent, and Discriminant Validity: Study II

LISREL VIII (Jöreskog and Sörbom (1993) was used to conduct confirmatory factor analysis on the factor solution generated in Study I as a means of assessing this model's dimensionality and internal consistency (see Table VII for exploratory results for this population). Study II consisted of a new sample of 170 students. A two-factor model was fit using five items for the Payment Time Horizon and three items for the Receipt of Goods Time Horizon (see Table IV for item descriptions). A four-step process was undertaken in the current assessment.

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The first step involved examining fit indices. Table VIII presents five fit indices for the two-factor model: the chi-square goodness-of-fit test, the Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the normal fit index (NFI). The chi-square goodness-of-fit test assesses whether or not the sample covariance matrix is significantly different from the implied covariance structure. The TLI and the CFI are incremental fit indices that serves as an effective indicators in evaluating model parsimony (Williams and Holahan 1994). The RMSEA is a test of approximate fit representing the degree of misfit per degrees of freedom (lower numbers represent less misfit). The NFI evaluates the model of interest relative to a baseline null.

TABLE VII
STUDY II: EXPLORATORY FACTOR ANALYSIS RESULTS
ROTATED FACTOR PATTERN FOR PAYMENT AND
RECEIPT OF GOODS FACTORS

Items	Payment		Receipt of Goods	
	IIS*	IIN*	IIS*	IIN*
	Factor Loadings			
1.	-.67	-.57		
2.	-.73			
3.	.95	.75		
4.	.96	.93		
5.	.50			
1.			-.48	
2.			.62	.86
3.			.93	.69
Alpha	.89	.78	.68	.74
% of Total Variance	.44	.42	.23	.34

*IIS = Study II Students
*IIN = Study II Non-students

The results of the chi-square test is significant (p<.000), indicating that the predicted covariance matrix is not the same as the sample data. However, given that the chi-square test is sensitive to sample size and violations of multivariate normality, other fit indices were examined. While the TLI and the CFI is acceptable (.90 and .93, respectively), the RMSEA demonstrates a degree of misfit (.05 or .06 represents less misfit). This is undoubtedly due to the amount of error in the receipt of goods construct. Thus, the fit indices indicate adequate fit.

The second step examined factor loadings. All loadings on the payment factor and the receipt factor were significant. This indicates evidence of convergent validity for the items measuring payment and receipt of goods (Anderson and Gerbing 1988).

The third step examined internal consistency. Composite reliability and average variance extracted were computed for each factor (Fornell and Larcker 1981; Werts, Linn, and Jöreskog 1974). The composite reliability functions as a coefficient alpha equivalent; the average variance extracted shows how much variance in the

TABLE VIII
STUDY II: MODEL FIT INDICES

	χ^2	df	TLI	CFI	RMSEA	NFI
Study II Measurement Model	70.79	20	0.90	0.93	0.12	0.91

measured variable is contained in the latent construct (.50 is the recommended minimum). Table IX shows the results of these calculations.

Another check for internal consistency examined squared multiple correlations for each item. For payment, three of the items surpassed the recommended .50 cutoff while only one of the receipt of goods items passed the cutoff mark. In concert, these results demonstrate an adequate level of internal consistency for the payment time horizon and marginal levels for the receipt of goods dimension.

The fourth step assessed discriminant validity. The first test consisted of performing a chi-square difference test to assess whether a constrained (two-factor) or an unconstrained (one-factor) model fit best (Anderson and Gerbing 1988; Bagozzi and

TABLE IX
STUDY II: COMPOSITE RELIABILITIES AND VARIANCE EXTRACTED

	Composite Reliability	Variance Extracted
Payment	.90	.66
Receipt of Goods	.72	.48

Phillips 1982; Jöreskog 1971). The one-factor model had a chi-square of 221.16 with 35 df. Thus, the difference test was highly significant with $\chi^2(1)=117.18$, $p<.000$, indicative of the superiority of the two-factor model. A second test was conducted: if the variance extracted for any two pairs of constructs is greater than the square of the Φ estimates (i.e., correlations between the two factors), support for discriminant validity has been gathered (Fornell and Larcker 1981). The average variance extracted for payment and receipt (.65 and .48, respectively) both exceeded the square of the correlation between these two factors (i.e., $\Phi = -.02$, $\Phi^2 = .004$). These two tests converge to suggest discriminant validity.

Design Integrity Checks

An assumption check was conducted with 88 undergraduates to test the notion that a delayed gain was viewed as a loss, a delayed loss was viewed as a gain, and so forth (see Appendix D). A 7-point scale was utilized that asked respondents to

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indicate whether they had received a gain ("7") or a loss ("1"). The scenario was similar to that used in the main experiment but did not allow the respondents to name their price. For example, in delay a gain, the scenario indicated that they saw an ad for the desired product. The scenario continued by stating that when they go to the store to make the purchase, they are told that the store is out of stock and will not have the product for 3 months. Delay a gain was significantly different from a neutral point and was considered a loss ($t=4.51$; $df=23$; $p=.00$). Delay a loss was significantly different from neutral and was viewed as a gain ($t=3.27$ $df=19$; $p=.00$). Advance a gain was viewed as a gain ($t=8.28$; $df=24$; $p=.00$). Advance a loss was viewed as a loss ($t=4.03$; $df=22$; $p=.00$). Therefore, the TOV assumptions of the design were confirmed.

A paired t-test for ratings of 3 months and 9 months as to whether or not this is a short time or a long time indicated significantly different means (6 months was not assessed because 3 months was the shortest time given and 9 months was the longest time given). On a 7-point scale with 1 representing a "short time" and 7 being a "long time," 3 months had a mean of 3.6 and 9 months had a mean of 6.2. Thus, 9 months is perceived to be a significantly longer time period.

TABLE X
MEANS FOR ASSUMPTION CHECKS

Scenario	Mean	Interpretation
Delay a Gain	3.04	Viewed as a Loss
Delay a Loss	4.60	Viewed as a Gain
Advance a Gain	5.44	Viewed as a Gain
Advance a Loss	3.17	Viewed as a Loss

Reliability of Scales

Two previously established scales were used in Study II as a blocking variable, locus of control and impulsivity (see Appendix A). The ten item locus of control scale (Paulhus 1983) had a coefficient alpha of .63, and the impulsive scale (Rook and Fisher 1995) had an internal reliability of .93. A median split was undertaken on each scale with high and low levels of locus of control and impulsivity. The alphas for the payment and receipt time horizon scale in the student population were .89 and .68, respectively. The alphas for the payment and receipt time horizon scale in the non-student population were .72 and .63, respectively.

Treatment of Two Samples

Tests were performed to determine if differences existed in the student and the non-student samples that would suggest that they be analyzed in a combined format or separately. A 4 X 3 X 2 mixed design was used with the four scenarios (advance/delay gain/loss), three time periods (3 months, 6 months, and 9 months), and sample (student versus non-student) as factors. Scenario and sample were between-subjects factors, and time was the within-subjects factor. The repeated measures general linear model produced a non-significant main effect for subject ($F = 1.347$, 1 df, $p > .10$), a significant main effect for scenario ($F = 52.232$, 3 df, $p < .000$), and a significant interaction for subject and scenario ($F = 2.251$, 3 df, $p < .08$) for valuations. Because of this significant interaction between subject and scenario on valuations, the samples were analyzed separately. Please refer to Exhibit I for the sample by scenario interaction.

Hypotheses Testing for Student Sample

The analysis involved a 4 X 3 mixed design with scenario (advance/delay a loss/gain) as a between-subjects factor and time (3, 6, 9 months) as a within-subjects factor. Correlations, means, and standard deviations are found in Table XI. The dependent variable was monetary valuations that would make the respondents indifferent between paying/receiving now or later (3, 6, 9 months). One hundred-sixty-nine subjects were used in this analysis. Multivariate tests were significant for time (F=43.33; df=2,162; p<.00) and for time*scenario (F=5.08; df=6,324; p<.00). Refer to Exhibit II for this interaction. Within-subjects effects included a significant main effect for time and a significant time*scenario interaction; the between-subjects effects for scenario were significant (see Tables XII and XIII). Within-subjects contrasts using 3 months as a reference point for 6 months produced significant differences in valuations (F=81.04; df=1,163; p<.00) and using 6 months as a reference point for 9 months (F=76.80; df=1,163; p<.00). That is, the means for valuations at each successive time period was significantly larger than the previous time period.

The test for the assumption of constant covariance-variance matrices was violated (Box's m test was significant). One possible reason for a violation of this assumption is that the covariances between the measures decrease as one moves

TABLE XI
STUDENT CORRELATIONS, MEANS, AND
STANDARD DEVIATIONS

	1	2	3	4	5	Mean	Std. Deviation
Payment	1.00					2.8	1.53
Receipt	-.17*	1.00				4.6	1.28
Three-month valuation	.13	-.03	1.00			247.25	327.14
Six-month valuation	.06	-.02	.85**	1.00		386.23	402.43
Nine-month valuation	.02	-.03	.66**	.94**	1.00	553.22	593.89

*P≤.05
**P≤.01

from 3 to 6 months and from 6 to 9 months. This is consistent with the TOV assumption that discounting is relatively rapid at first and slows with the passage of time. When there is a lack of homogeneity, a multivariate approach is recommended (LaTour and Miniard 1983).

A priori contrasts were conducted to test Hypotheses 1-4 (see Table XIV for results).

Hypotheses 1. This hypothesis stated that valuations will be larger for delay a gain than for delay a loss. Hypothesis 1 was supported for all three time periods. The valuations for delay a gain were larger than for delay a loss. Means are presented in Table XII.

Hypotheses 2. This hypothesis posited that valuations for delaying a gain are larger than for advancing a payment (i.e., advancing a loss). Hypothesis 2 received support for all three time periods. The significant 1-sided p-value indicated that the valuations are larger for delay a gain than for advance a loss.

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Hypotheses 3. This hypothesis argued that valuations for advancing a loss are greater than for advancing a gain. Hypothesis 3 was fully supported. Valuations for the advance a loss condition are greater than for the advance a gain condition for all three time periods.

Hypotheses 4. This hypothesis stated that valuations for delaying a loss are greater than valuations for advancing a gain. Hypothesis 4 was not supported (see means in Table XII). The difference between the means for the delay a loss condition and the advance a gain condition were not significantly different.

Hypothesis 8. This hypothesis stated that individuals with a future payment horizon will have higher valuations than individuals with a present payment horizon. In order to test the hypothesis, a 2 X 4 X 3 mixed factorial design was utilized. No significant effects were found for payment time horizon.

Hypothesis 9. Hypotheses 9 stated that individuals with a future receipt of goods horizon will have lower valuations than individuals with a present receipt of goods horizon. Again, in order to test the hypothesis, a 2 X 4 X 3 mixed factorial design was utilized. No significant effects were found for receipt of goods time horizon.

Hypotheses 10a and 10b. This hypothesis states that payment time horizon influences changes in valuation across time periods.
A 2 X 2 mixed design was used, and no effects were found.

Hypotheses 10c and 10d. These hypotheses stated that receipt time horizon influences changes in valuation across time periods. Receipt of goods did not have a main effect. Therefore, Hypotheses 10c and 10d are not supported.

Hypothesis 11 proposed that high impulse individuals would have greater valuations than low impulse consumers. This hypothesis was tested using a 2 X 4 X 3 mixed design. The multivariate tests revealed no significant main effects for impulsive, and Hypothesis 11 was not supported.

Hypotheses 12a and 12b. These hypotheses stated that low impulse individuals would have smaller changes in valuation from 3 to 6 months and from 6 to 9 months than high impulse individuals. A 2 X 2 design was used for testing. There were no significant main effects for impulsive.

Hypothesis 13. The hypothesis proposed that externals would have higher valuations than internals. This hypothesis was tested using a 2 X 4 X 3 mixed design. The between-subjects factor of locus group did not have a main effect, and the hypothesis received no support.

Hypothesis 14a and 14b. A mixed design was used for testing. No main effects for locus of control were found, and the hypothesis was not supported.

EXHIBIT I
STUDY II
SAMPLE BY SCENARIO

Valuations

$1000

931 (N)

$800

702
(S)

613 (N)

$600

512 (S)

$400

221 (N)

$200

182 (S)

172 (S)

82 (N)

0

Delay a Gain   Delay a Loss   Advance a Gain   Advance a Loss

S = Student
N = Non-Student
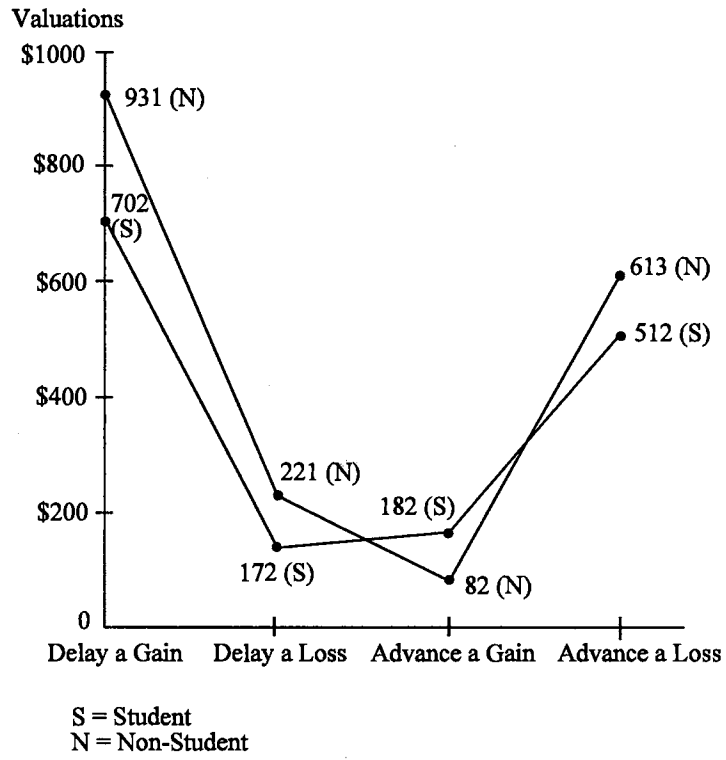
EXHIBIT II
STUDY II
TIME BY SCENARIO FOR STUDENTS ON VALUATIONS

Valuations

1 = Delay a Gain
2 = Delay a Loss
3 = Advance a Gain
4 = Advance a Loss

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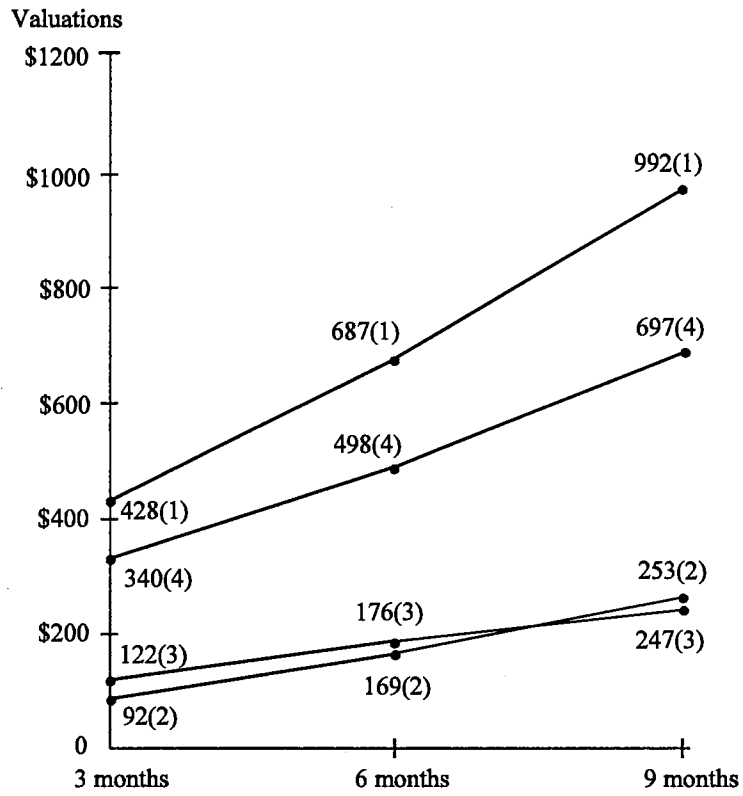
TABLE XII
STUDY II: MEANS FOR STUDENT SAMPLE

Scenario	Dependent Variable	Time		
		3 months	6 months	9 months
Delay Gain	Valuation	428.15	687.07	991.63
Delay Loss	Valuation	92.63	169.06	252.64
Advance Gain	Valuation	122.14	175.67	247.02
Advance Loss	Valuation	339.86	497.76	696.92

TABLE XIII
STUDY II: WITHIN AND BETWEEN-SUBJECTS EFFECTS FOR STUDENT SAMPLE ON VALUATIONS FOR HYPOTHESES 1-4

Effect	F	df	sig.	Eta Squared	Observed Power
Between Subjects					
Scenario	24.39	3,163	.00	.31	1.00
Within Subjects					
Time	83.75	2,326	.00	.34	1.00
Time* Scenario	10.73	6,326	.00	.16	1.00

TABLE XIV
STUDY II
CONTRAST TESTS FOR STUDENT SAMPLE ON VALUATIONS
HYPOTHESES 1-4

Dependent Variable	Scenario (I)	Scenario (J)	Contrast Value I-J	F Value	Sig. 1-tailed
3 Months Valuations	1*	2*	335.53	28.21	.00
		4*	88.29	1.82	.09
	3*	2	29.52	.21	.33
		4	-217.72	10.64	.00
6 Months Valuations	1	2	518.00	52.14	.00
		4	189.31	6.50	.00
	3	2	6.60	.01	.47
		4	-322.09	18.06	.00
9 Months Valuations	1	2	738.99	47.42	.00
		4	294.71	7.04	.00
	3	2	-5.62	.00	.48
		4	-449.90	15.75	.00

*1 = Delay a Gain
*2 = Delay a Loss
*3 = Advance a Gain
*4 = Advance a Loss

Discussion of Student Findings

Three of the eleven hypotheses in the student population were supported (see Table XIX for a summary of results for all hypotheses tested in Study II). Hypothesis 1, which stated that higher valuations would be given for delayed gains than for delayed payments, was supported. For Hypothesis 2, the valuations were larger for delay a gain than for advance a loss for all three time periods.

Hypothesis 3 was fully supported: valuations for the advance a loss condition was greater than for the advance a gain condition for all three time periods.

Hypothesis 4 was not supported because there were no significant differences between the means for the delay a loss condition and the advance a gain condition.

None of the hypotheses dealing with individual differences (time horizon, impulsivity, and locus of control) were supported.

Hypotheses Testing for Non-Student Sample

The repeated measures GLM multivariate procedure involved a 4 X 3 mixed design with scenario (advance/delay a loss/gain) as a between-subjects factor and time (3, 6, 9 months) as a within-subjects factor. Correlations, means, and standard deviations are presented in Table XV. The dependent variable was monetary valuations that would make the respondents indifferent between paying/receiving now or later (3, 6, 9 months). 206 consumers participated. Multivariate tests were significant for time ($F=50.07$; $df=2,201$; $p<.00$) and for time*scenario ($F=10.30$; $df=6,402$; $p<.00$). Refer to Exhibit III for these interactions.

TABLE XV
NON-STUDENT CORRELATIONS, MEANS AND
STANDARD DEVIATIONS

	1	2	3	4	5	Mean	Std. Deviation
Payment	1.00					1.48	.98
Receipt	-.02	1.00				3.31	1.12
Three-month valuation	-.04	-.07	1.00			287.39	453.21
Six-month valuation	-.08	-.13	.88**	1.00		454.56	615.39
Nine-month valuation	-.04	-.15*	.74**	.90**	1.00	622.78	817.07

*P≤.05
**P≤.01

Within-subjects contrasts using 3 months as a reference point for 6 months produced significant differences in valuations (F=82.21; df=1,202; p<.00) and using 6 months as a reference point for 9 months (F=43.77; df=1,202; p<.00). That is, the means for valuations at each successive time period were significantly larger than the previous time period (see means in Table XVI).

As noted for the student sample, the test for the assumption of constant covariance-variance matrices was violated (Box's m test was significant). One possible reason for a violation of this assumption is that the covariances between the measures decrease as one moves from 3 to 6 months and from 6 to 9 months. This is consistent with the TOV assumption that discounting is relatively rapid at first and slows with the passage of time. When there is a lack of homogeneity, a multivariate approach is recommended (LaTour and Miniard 1983).

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A priori contrasts were conducted to test Hypotheses 1-4 (see Tables XVIII for these results).

Hypotheses 1. This hypothesis stated that valuations will be larger for delay a gain than for delay a loss. Hypothesis 1 was supported for all three time periods for valuations such that the valuation for delay a gain was larger than for delay a loss.

Hypotheses 2. This hypothesis posited that valuations for delaying a gain are larger than for advancing a loss. Hypothesis 2 received support for all 3 time periods. Valuations are greater for the delay a gain condition than for the advance a loss condition at 3 months, 6 months, and 9 months.

Hypotheses 3. This hypothesis argued that valuations for advancing a loss are greater than for advancing a gain. Hypothesis 3 was fully supported. Valuations for the advance a loss condition is greater than for the advance a gain condition for all three time periods.

Hypotheses 4. This hypothesis stated that valuations for delaying a loss are greater than valuations for advancing a gain. Hypothesis 4 was supported for 6 and 9 months, but not at 3 months.

Hypothesis 5. The hypothesis stated that income influences valuations. This hypothesis was tested using a mixed design with between-subjects factors of scenario and high/low levels of income and a within-subjects factor of time. There was a main effect for income ($F=3.18$; $df=1,198$; $p<.04$). The means were larger for low income ($m=539$) than for high income individuals ($m=412$). Therefore, Hypothesis 5 is supported and income influences valuations.

Hypothesis 6. It was hypothesized that the higher income group would have smaller changes in valuations from 3 to 6 months and from 6 to 9 months. For change in valuations by high and low levels of income, no main effect for income was produced. However, a marginally significant triple interaction was found for time by income by scenario (F=2.17; df=3,198; p<.09). To interpret the triple interaction, four ANOVAs, one for each scenario, were run. For the delay a loss condition, a main

EXHIBIT III
STUDY II
TIME BY SCENARIO FOR NON-STUDENTS ON VALUATIONS

Valuations

$1400	
$1200	1276 (1)
$1000	957 (1)
$800	834 (4)
$600	561 (1) 560 (4)
$400	406 (4) 315 (2)
$200	133 (2) 216 (2) 103 (3)
0	67 (3) 77 (3)

3 months   6 months   9 months

1 = Delay a Gain
2 = Delay a Loss
3 = Advance a Gain
4 = Advance a Loss

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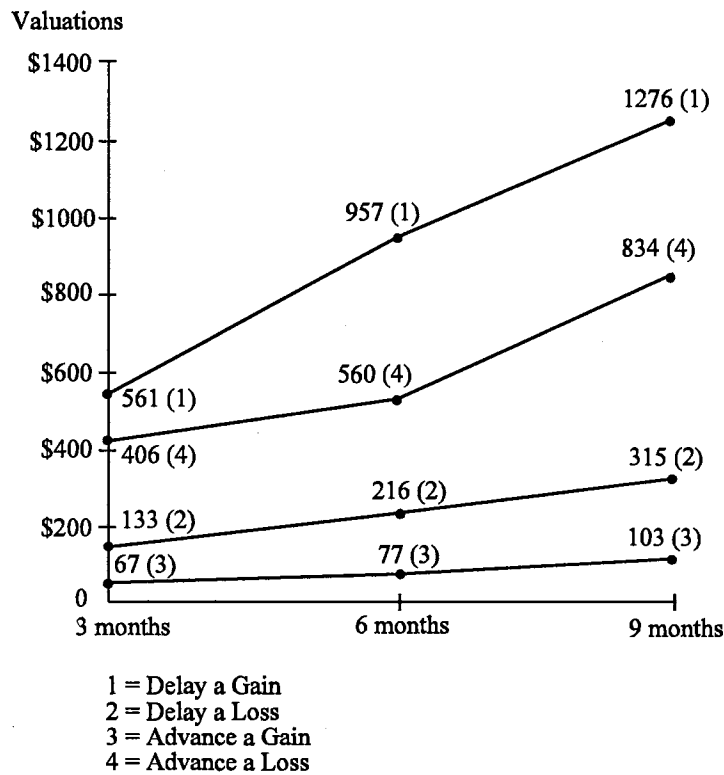
TABLE XVI
STUDY II: MEANS FOR NON-STUDENT SAMPLE

Scenario	Dependent Variable	Time		
		3 months	6 months	9 months
Delay Gain	Valuation	561.20	957.40	1276.50
Delay Loss	Valuation	133.37	215.98	315.20
Advance Gain	Valuation	66.75	77.29	102.93
Advance Loss	Valuation	406.21	599.81	833.87

TABLE XVII
STUDY II: WITHIN AND BETWEEN-SUBJECTS EFFECTS FOR NON-STUDENT SAMPLE VALUATIONS FOR HYPOTHESES 1-4

Effect	F	df	sig.	Eta Squared	Observed Power
Between Subjects					
Scenario	31.03	3,202	.00	.32	1.00
Within Subjects					
Time	75.93	2,404	.00	.27	1.00
Time* Scenario	14.75	6,404	.00	.18	1.00

TABLE XVIII
STUDY II: CONTRAST TESTS FOR NON-STUDENT
SAMPLE ON VALUATIONS
HYPOTHESES 1-4

Dependent Variable	Scenario (I)	Scenario (J)	Contrast Value I-J	F Value	Sig. 1-tailed
3 Months Valuations	1*	2*	427.83	27.01	.00
		4*	160.77	3.96	.02
	3*	2	-66.62	.69	.20
		4	-333.69	17.92	.00
6 Months Valuations	1	2	741.42	51.38	.00
		4	365.14	12.96	.00
	3	2	-138.69	1.88	.08
		4	-514.97	27.03	.00
9 Months Valuations	1	2	961.30	49.20	.00
		4	442.63	11.63	.00
	3	2	-212.28	2.51	.06
		4	-730.94	29.70	.00

*1 = Delay a Gain
*2 = Delay a Loss
*3 = Advance a Gain
*4 = Advance a Loss

effect was found for income (F=9.43; df=1,47; p<.00); likewise, a main effect was found for income in the advance a gain scenario (F=3.58; df=1,53; p<.03).

Simple effects within the triple interaction were then examined (see Exhibit IV for this interaction). In delay a loss, the high income group had smaller changes in valuations from 3 to 6 months (m=45) than the low income individuals (m=143) [F=4.16; df=1,48; p<.02). In delay a loss, the high income (19) group also had smaller changes in valuation from 6 to 9 months than the low income group (m=226) [F=9.42; df=1.48; p<.00]. For the advance a gain condition, the low income individuals (m=27) had significantly greater changes in valuations than high income people (m=-4) from 3 to 6 months (F=2.19; df=1,54; p<.08) and from 6 to 9 months (m=52 for low and m=2 for high; F=2.25; df=1.54; p<.07). Thus, Hypothesis 10 was partially supported.

Hypothesis 7. This hypothesis posited that age would influence valuations. A significant interaction was found for time*age (F=2.21; df=4,386; p<.07). There was no main effect for age. Individual ANOVAs for the effect of age group on 3 month valuations, 6 month valuations, and 9 months valuations were not significant. Therefore, the hypothesis received no support.

EXHIBIT IV
STUDY II
TRIPLE INTERACTION FOR TIME*INCOME*SCENARIO FOR NON-STUDENTS

Dollar Change in Valuation

Delay a Gain: High Income: 405 (3-6 Months) → 411 (6-9 Months); Low Income: 389 (3-6 Months) → 201 (6-9 Months)

Delay a Loss: Low Income: 143 (3-6 Months) → 226 (6-9 Months); High Income: 45 (3-6 Months) → 19 (6-9 Months)

Advance a Gain: Low Income: 27 (3-6 Months) → 52 (6-9 Months); High Income: -4 (3-6 Months) → 2 (6-9 Months)

Advance a Loss: Low Income: 200 (3-6 Months) → 332 (6-9 Months); High Income: 190 (3-6 Months) → 186 (6-9 Months)

Hypothesis 8. It was hypothesized that consumers with a future payment horizon will have higher valuations than individuals with a present payment horizon. A significant main effect for payment was produced ($F=2.55$; $df=1,196$; $p<.06$). However, the means for present payment horizon ($m=518$) were greater than for future payment horizon ($m=410$) which is not the predicted direction. Therefore, Hypothesis 8 received no support.

Hypothesis 9. This hypothesis asserted that consumers with a future orientation toward receiving goods would have lower valuations than those desiring to receive now. Receipt of goods had a main effect ($F=7.35$; $df=1,204$; $p<.01$). Those with a future orientation toward receiving goods had lower valuations ($m=325$) than those with a present orientation ($m=550$). Thus, Hypothesis 9 was supported.

Hypotheses 10a-d. These hypotheses stated that payment time horizon and receipt time horizon influences changes in valuation across time periods. No main effects for payment time horizon was found. However, a main effect was yielded for receipt time horizon on change in valuations ($F=4.83$; $df=1,204$; $p<.03$). The change from 3 to 6 months was greater for present ($m=210$) than for future receipt consumers ($m=108$). Likewise, the change from 6 to 9 months was greater for present ($m=197$) than for future receipt respondents ($m=125$). Thus, Hypotheses 10a-d received partial support.

Discussion for Non-Student Findings

The reliabilities for the receipt time horizon were marginal in the second study in both the student (alpha = .68) and the non-student population (alpha = .63).

However, the payment time horizon had strong reliabilities ($\alpha=.89$ for students and .72 for non-students).

Nine out of the ten hypotheses tested in the non-students received support (see Table XIX for a summary of results for all hypotheses tested in Study II). Hypothesis 1, which stated that higher valuations would be given for delayed gains than for delayed payments, was supported. For Hypothesis 2, valuations were greater for the delay a gain condition than for the advance a loss condition at 3 months, 6 months, and 9 months.

Hypothesis 3 was supported and valuations for the advance a loss condition were greater than for the advance a gain condition for all three time periods.

Hypotheses 4 was supported at 6 and 9 months. The difference between the means for the delay a loss condition were larger than those for the advance a gain condition.

The findings for Hypothesis 5 supported the prediction that income would influence valuations. Specifically, the low income subjects had higher valuations than the high income ones. Hypothesis 6, dealing with changes in valuation across time, was partially supported. That is, in the delay a gain scenario and in the advance a gain condition, the low income individuals had greater changes in valuation than the high income people. These findings were not supported in the delay a loss or advance a loss condition. Hypothesis 7 which posits that age influences valuations was not supported.

Hypothesis 8, which deals with future/present payment orientation, received no support.

Hypothesis 9, concerning future/present receipt, was fully supported. Future receipt individuals have lower valuations than present receipt people.

Hypothesis 10 which stated that changes in valuations would be different for future and present time horizons received support for the receipt of goods orientation but not for payment of goods on change in valuations. Present receipt respondents have greater changes in valuation than future receipt consumers.

Comparison of Student versus Non-student Samples

Overall, more hypotheses were supported in the non-student population (80%) than in the student population (27%). For Hypothesis 4, there were no significant differences in means in the student sample (delayed loss versus advanced gain), but the valuations for delay a loss were larger than that for advance a gain as predicted in the non-student population for 6 and 9 months.

Perhaps one explanation is that the younger, college age consumers (not involved in career responsibilities and commitments as of yet) are more willing to speed up delivery of a good of interest than consumers already involved in careers or retired. These non-students perhaps have learned the necessity of being frugal with one's money and are not so ready to spend extra just to have something sooner.

The individual difference variables were not supported in the student sample: a relatively homogeneous population did not produce detectable differences in time horizon, impulsivity, or locus of control. It is also plausible that college students are, as a whole, more future oriented than the non-student population (this is not to say that the non-student population does not have future-planners however). If they were not

future oriented, they likely would not be in college (the majority of the student sample were taking junior or senior level courses).

TABLE XIX
SUMMARY REPORT ON STUDY II HYPOTHESES

Hypothesis	Sample	Results
Hypothesis 1	Student	Supported
	Non-student	Supported
Hypothesis 2	Student	Supported
	Non-student	Supported
Hypothesis 3	Student	Supported
	Non-student	Supported
Hypothesis 4	Student	Not supported
	Non-student	Partially Supported
Hypothesis 5	Non-student	Supported
Hypothesis 6	Non-student	Partial Support
Hypothesis 7	Non-student	Not Supported
Hypothesis 8	Student	Not supported
	Non-student	Not supported
Hypothesis 9	Student	Not supported
	Non-student	Supported
Hypothesis 10	Student	Not supported
	Non-student	Partial support
Hypothesis 11	Student	Not supported
Hypothesis 12	Student	Not supported
Hypothesis 13	Student	Not supported
Hypothesis 14	Student	Not supported

Exploratory Analyses

During pretests, it was noted that, even though subjects were allowed to give the amount of money that would make them indifferent between paying or receiving now/later, they frequently responded with a very low likelihood of accepting the deal. In other words, even though they were given the opportunity to 'name their price,' many of them were still not pleased with the deal. Thus, depth interviews were conducted to determine the cause for these seemingly contradictory findings and to explore both the fungible and the non-fungible aspects of a promotional deal.

Depth Interviews

Two non-students per scenario (or eight subjects), ranging in age from 28 to 66, were depth interviewed. They were given the non-student survey to complete. Then, at a short time later, they were questioned about their responses to the deal and were asked to provide reasons for the differences in fungible and non-fungible responses.

For the delay a gain condition, one woman in her 50's stated that she "...would be mad at the store" and "If I really wanted something, I wouldn't wait. I would shop around." In fact, she stated that she would be so angry that they could "...practically give it to me and I wouldn't have it." A man in his late 20's stated that he wouldn't wait no matter how much they compensated him for the wait. He claimed that this was extremely poor customer service even with a generous cash compensation. Weaving through both interviews was the constant theme that, no matter how much a company is willing to appease a waiting customer, there is an element of anger that overrides any gestures of goodwill.

For the delay a payment scenario, a woman in her late 20's said that she would not want to pay any interest no matter how appealing the offer. A woman in her 40's stated that if she had decided to take advantage of the promotional deal of paying later that she would eventually become very angry with herself for having taken on a deferred payment plan and angry at the store for having enticed her to make payments. In sum, these subjects would not be pleased with payments no matter how small the interest charge.

In the advance a gain condition, a man in his 60's commented that he would pay nothing extra to get one now. He stated that he believes it is dishonest for a store to advertise a product, run short on the product, and charge a premium for speed-up. A woman in her 30's said that she would simply go elsewhere. She noted that if a store advertises something, they need to have it in stock if they want to keep customers coming back. The dominant thought in these interviews was the paramount need for a store or company to have on hand what it advertises.

In the advance a loss condition, a man in his late 40's mentioned that he wasn't sure what the mark-up for the store was. Even though he gave an amount of money he would be happy with, he gave lower ratings on the attitudinal scales because he wasn't sure whether the store was benefitting or not. The woman in her 50's remarked that even though she gave an amount that would please her, she gave lower ratings on the affective measures because she distrusted the store's motives for encouraging people to pay now instead of later. Both subjects were suspicious of the store's original pricing and subsequent ability to knock an amount off this price for advanced payment. The pervasive theme that emerged was distrust if the company is not clear about its reasons for incentive offerings for early payment.

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In summary, these depth interviews revealed the clear and distinct dimensionality of both the fungible and the non-fungible aspects of any promotional offering. Each dimension provokes its own set of responses and is thus to be reckoned with by those offering promotional deals.

Analyses for Affective Measures and Intent to Purchase

Hypotheses were not developed for the affective dimension of the promotional deals because this aspect consists of both positive and negative feelings that combine together to form the final evaluation. However, to illuminate the findings from the depth interviews, exploratory analyses examined the influence of time and scenario on the affective measures and intentions to purchase.

The affect scale consisted of semantic differentials with end points of bad/good, unfair/fair, unbelievable/believable, and dishonest/honest. These 4 items were summed to form an index for 3 months, an index for 6 months, and an index for 9 months. A 7-point scale was employed with "7" being a positive rating and "1" being a negative rating. The alphas for 3, 6, and 9 months were .88, .90, and .91, respectively.

A repeated measures GLM multivariate procedure involved a 4 X 3 mixed design with scenario (advance/delay a loss/gain) as a between-subjects factor and time (3, 6, 9 months) as a within-subjects factor. The dependent variable was affect at 3, 6, and 9 months.

Because subject*scenario was not significant, the two data sets were analyzed together. Significant within-subjects effects were found for time (F=46.91; df=2,728; p=.00) and time*scenario (F=10.00; df=6,728; p=.00). Significant between-subjects

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effects were found for scenario (F=40.27; df=3,364; p=.00) and subject (F=4.08; df=1,364; p=.04). Post-hoc comparisons were examined for significant differences. Students (m=4.54) have higher affective ratings than non-student (m=4.34). For three months affect ratings, respondents were more positive about delaying a loss than for advancing a gain (mean difference=1.75; p=.00) and more positive for advancing a loss than for advancing a gain (mean difference=2.02; p=.00). For six months affect ratings, respondents were more positive about advancing a loss than for delaying a gain (mean difference=.81; p=.00), more positive about delaying a loss than for advancing a gain (mean difference=1.79; p=.00), and more positive about advancing a loss than for advancing a gain (mean difference=2.32; p=.00). For 9 months affect ratings, respondents were more positive about delaying a loss than about delaying a gain (mean difference=.70; p=.00), more positive about advancing a loss than about delaying a gain (mean difference=1.35; p=.00), more positive about delaying a loss than about advancing a gain (mean difference=1.92; p=.00), and more positive about advancing a loss than about advancing a gain (mean difference=2.57; p=.00).

To assess differences in intentions to purchase between the scenarios, an ANOVA was run with scenario as the factor and intent to purchase as the dependent variable. "7" was very high intention to purchase and "1" was very low intention to purchase. A significant ANOVA (F=15.16; df=3,372; p<.00) indicated differences between the scenarios. Post hoc contrasts were used to determine where the differences were. The contrast between delay a gain and delay a loss was significant (t=2.60; df=372; p<.01). There was a greater intent to purchase for delay a gain (m=4.6) than for delay a loss (m=3.9). The contrast between delay a gain and advance a loss was significant (t=-3.52; df=372; p<.00). The intent to purchase was higher for

advance a loss than for delay a gain. The contrast for advance a gain and advance a loss was also significant (t=-5.62; df=372; p<.00). Intentions to purchase were greater for advance a loss (m=5.6) than for advance a gain (4.1). The contrast for delay a loss and advance a gain was non-significant.

Time Horizons Analyses

Students versus non-students. Students were compared to non-students on payment and receipt time horizons using independent samples t-tests. These tests were non-significant for both payment and receipt of goods time horizons.

Age Groups. Using ANOVA, age was the grouping variable and payment time horizon was the dependent measure (F=2.18; df=4,369; p<.07). An insignificant ANOVA was produced for receipt time horizon. Refer to Exhibit V for means. "7" on the payment scale means one prefers to delay payments and "1" means that one likes to pay immediately. Selected contrasts were used to compare the five different age groups. The mean for the youngest age group (m=2.4;18-20) was significantly different from the 21-25 year old group (m=2.9;t=-2.45; df=369; p<.02) but it was not significantly different from the oldest group, ages 51 and above (m=2.5).

Income. A significant ANOVA was produced for payment time horizon (F=5.65; df=1,204; p<.02) but not for receipt time horizon. High income individuals are more likely to delay

payments (m=2.8) than low income individuals (m=2.3).

EXHIBIT V
STUDY II
MEANS FOR PAYMENT TIME HORIZON BY
AGE GROUP FOR NON-STUDENTS
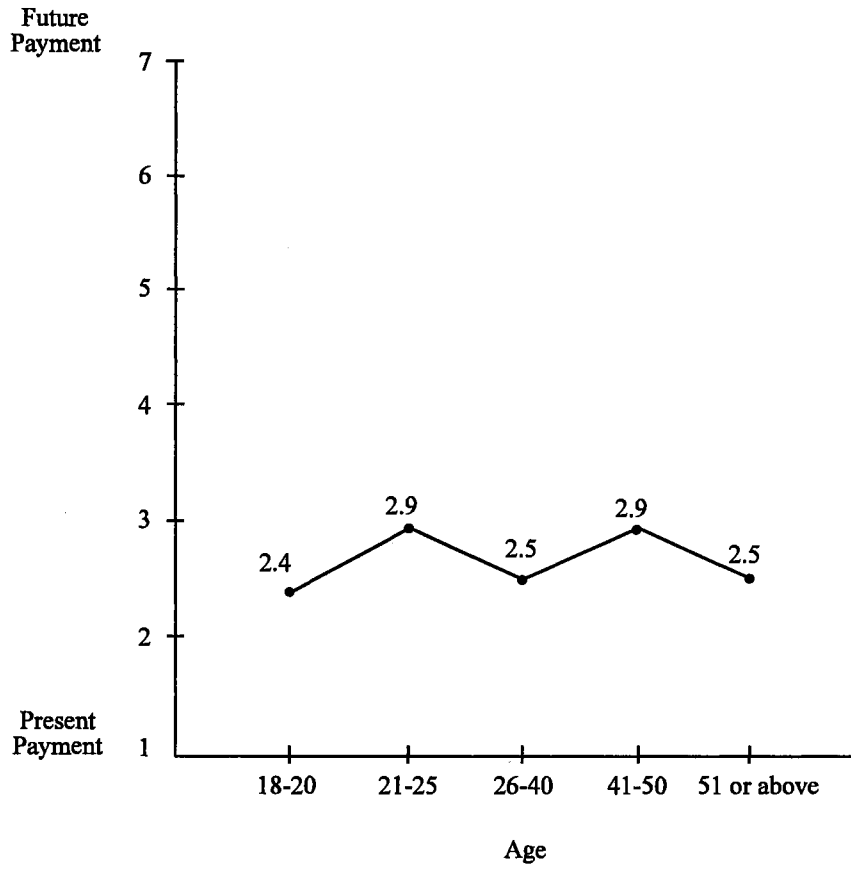
CHAPTER VI

DISCUSSION AND CONCLUSION

The text that follows is organized in the following manner. The first section

reviews the research questions and intentions that were initially posed. The second

section provides a discussion of the answers for each of the research questions

generated from the findings of Study I and Study II. The third section provides

managerial implications. The fourth section outlines limitations of the present work.

Finally, the last section explores directions for future study.

The Research Questions and Goals

The dissertation proposed three research questions:

1. Are there individual differences in time horizon relative to payments and
   receipts of consumer goods?

2. In a promotional setting, how does the postponing/expediting of
   payments and receipts of goods at varying temporal distances from the
   consumer's decision influence the valuation of these decision outcomes?

3. Do individual differences (i.e., locus of control, impulsivity, age, and
   income) moderate these valuations?

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Discussion of Findings

Question 1

Are there individual differences in time horizon relative to payments and receipts of consumption goods? To answer this question, a scale for measuring time horizon for payments and receipts was first developed and validated. The scale was then used to examine valuations of delayed/expedited consumer payments and receipts. The Exchange Time Horizon Scale was established through assessments of external, nomological, convergent, and discriminant validity utilizing both exploratory and confirmatory analyses. Evidence of two factors representing a consumer time horizon relative was gathered. In general, both factors of the scale demonstrated evidence of acceptable levels of external validity as well as nomological validity in relating to other constructs as predicted.

Individual differences in time horizon relative to payments and receipts were not found in the student sample. As previously noted, this sample tends to be a very future-oriented group as a whole. As such, it is a homogeneous population. In attending college, they are demonstrating their concern with the future and their willingness to make certain sacrifices in order to attain future outcomes. Thus, it is not surprising to find a lack of evidence of individual differences in time horizon in this particular population. Additionally, the receipt time horizon scale was problematic and could have produced poor results.

Individual differences in receipt of goods time horizon were found in the non-student sample. Individuals who tend to delay purchase if they believe it to be in their best interest discount the future much less than those who cannot wait to receive what they want to purchase. Present-receipt consumers want things now because they

perceive them to be of much less value later on, whereas future-receipt individuals perceive future receipts of goods to be of value. Likewise, when receipts are delayed, the present-receipt people expect more compensation for their wait.

Present-receipt consumers will also give more to delay payments because they have discounted the future to a much greater extent; they are not so concerned with these future payments so they are willing to pay more then. Not only do consumers with a present-receipt time horizon have a much greater discount rate than future-receipt consumers, but they also experience a much greater increase in discounting from one time period to the next. Present-receipt individuals discount future payments and receipts to a much greater extent than future-receipt individuals and at a much faster rate. That is, they will pay more to receive now and will pay more to delay payments.

Question 2

How does the postponing/expediting of payments and receipts at varying temporal distances from the consumer's decision influence the valuation of these decision outcomes?

To answer this research question, hypotheses were developed from the Time and Outcome Valuation Model (Mowen and Mowen 1991). Student results demonstrated significantly larger valuations with increasing time from the point of the valuation. This finding lends support to the TOV assumption that individuals have negative discount rates resulting in decision myopia. That is, short term gains and losses are given more weight than gains and losses occurring in the future

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(Assumption 4). A significant time by scenario interaction was produced for valuations indicating that the effect for time depends upon the scenario.

The results of the test of hypotheses in the student and the non-student sample showed that higher valuations are given for delayed gains (a loss) than for delayed losses (a gain). For the students and non-students, the valuations were larger for delay a gain than for advance a loss at 3 months, 6 months, and 9 months. Additionally, in both the student and the non-student population, valuations for the advance a loss condition were greater than for the advance a gain condition for all three time periods. Students and non-students alike wanted to be given a larger incentive to advance payments than they were willing to pay to advance gains.

In the student population, in terms of valuations, there were no differences between the delay a loss condition and the advance a gain condition. As predicted, the non-students gave larger valuations for the delay a loss condition than for the advance a gain condition at 6 and 9 months. One explanation could be that the student population, in their youthful vigor and enthusiasm, are as eager to obtain early receipts as they are to defer payments. The non-student consumers, faced with the real-life tasks of maintaining careers, paying mortgages, and raising families, are not so interested in spending money simply to speed delivery.

Academicians have argued that a higher discount rate is utilized for gains than for losses (Benzion et al., 1989; Thaler 1981; Loewenstein and Thaler 1989). These scholars asserted that the postponing of a gain was a gain and the postponing of a loss was a loss. Mowen and Mowen (1991) have argued that consumers actually frame the postponing of a gain as a loss and the postponing of a loss as a gain. The results of the design integrity checks support this argument.

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In general, the results of the aforementioned hypotheses tests support TOV Assumption 5 which states that the discount rate for losses is greater than the discount rate for gains. They provide support for Assumption 6, which asserts that the postponement of a gain is framed as a loss, the postponement of a loss is framed as a gain, expediting a gain is framed as a gain, and expediting a loss is framed as a loss. The design integrity checks provide further support for this assumption. The findings likewise support Assumption 7, which posits that gains and losses may occur at different points in time.

In concert, the findings from both the student and the non-student samples suggest the following: (1) valuations of delayed gains versus losses (or positive versus negative consequences) are weighted differently depending upon their temporal occurrence; (2) short term gains or losses are given more weight than temporally remote gains or losses; (3) discount rates decline with increasing time delay; and (4) consumers frame postponing/delaying a gain and postponing/delaying a loss very differently. The TOV has provided a powerful and parsimonious theoretical mechanism in accounting for these observed findings.

An interesting perspective on outcome valuations in the loss domain is that provided by reactance theory. If freedom to select a product or service is blocked, the consumer response is to react to this threat to behavioral freedom by seeking to restore it. The resulting motivational state is called psychological reactance (Brehm 1966). One result of a reactance state is that the evaluation is raised of the alternative that is denied. In addition, reactance produces negative feelings when behavioral freedom is blocked. The TOV proposes that negative feelings generated from the loss of behavioral freedom is due to the heavy weighting of losses in the present (Mowen

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1992). These losses include positive features and benefits possessed by the missed alternative. Thus, the dollar valuations provided by respondents may be composed of not only judgments of the rational man in a strictly economic sense but also by feelings of disappointment over missed alternatives.

Question 3

Do individual differences (i.e., locus of control, impulsivity, age, and income) moderate valuations of decision outcomes? None of the hypotheses dealing with individual differences in impulsivity and locus of control were supported in the student population. The locus of control scale had a very poor alpha (alpha = .63) and could have produced a lack of results. Other reasons for this lack of findings could be that a relatively homogeneous population (young college undergraduates) did not produce sufficiently large differences in impulsivity or locus of control to impact the dependent variable. This group, as a whole, does not "buy now and think later" to a large degree as this could impair their ability to finish college. College students are more likely to be homogeneous relative to such statements that measure locus of control as "competition encourages excellence" and "I can learn almost anything if I set my mind to it." The lack of results with this variable could be explained by the possibility that there is relatively little variance on this measure among college students.

For the non-student sample, individual differences in income impacted valuations. The low-income subjects had higher valuations than the high-income ones. Additionally, the low-income group had greater changes in valuation across time periods in the delay a loss and the advance a gain conditions. This supports the ideas of Strotz (1956) that lower-income individuals will be more likely to discount future

events at a higher rate than those of higher income. It also agrees with the findings by Viscusi and Moore (1989) that demonstrated that those with higher levels of education had lower discount rates than those with less education. One conclusion that can be drawn is that persons with low valuations show more restraint and are better able to wait for benefits that are delayed, such as an education or the exact consumption good that is really desired.

Managerial Implications

Findings suggest that companies should seek to maintain a high level of timely delivery of goods and services. Indeed, results from the depth interviews indicate that, even if a store compensates its waiting customers, these consumers will still be unhappy with the store, no matter what the level of compensation. Thus, consumers may not return to that particular business even though they were awarded compensation for their wait. This has the potential to ultimately impact the company's profitability. From a promotional perspective, a business that is confident of its timely delivery of goods and services could promote this particular benefit.

Another finding from the analyses of affective ratings is that consumers like to receive incentives for early payment. Depth interviews suggested that businesses stress the reasons for the incentive so that the customer will not think that the company overpriced just so they could reduce the price. The store should make it very clear how they are benefitting by giving early payment incentives and how the consumer will benefit as well.

Findings in the delay a payment condition suggest that promotional offers should incorporate other appealing options along with the 'buy now, no payment'

promotion. Perhaps this appeal should be coupled with other plans such as incentives for early payment. In this way, those consumers who do not prefer to delay payment and would be offended at such a suggestion can be provided some other impetus for participating in the promotion.

The manner in which additional costs for advanced deliveries are posed to consumers should be carefully couched so that it does not appear that the establishment is trying to make a good deal for itself from add-on costs. The primary managerial suggestion here is that a business should be very careful to have on hand the goods that it advertises. Any additional payments for earlier delivery should be explained to consumers in the promotional offering.

From an individual difference perspective, the greater impatience of low-income persons should be taken into account by stores who must make people wait. Businesses should be mindful to be considerate about delayed waits for these individuals. For companies offering products and services that entail planning and waiting for future benefits (as opposed to immediate benefits), the promotions should be aimed primarily at more educated, higher income consumers.

Ethical implications must be considered with the realization that low-income consumers are willing to pay more to delay payments. As such, they constitute a very vulnerable segment of the population. Targeting groups of consumers viewed as having high levels of vulnerability is viewed as significantly more unethical, regardless of product characteristics (Smith and Cooper-Martin 1997). Targeting to low income individuals through advertisements for home equity loans and title loans has very serious ethical implications. Efforts should be undertaken at the public policymaking level to provide some type of protection from these types of promotions for this

vulnerable segment. Likewise, consumer counseling efforts can be aimed at these groups in assisting them in planning their purchases wisely.

Any promotional offering in which a consumer chooses to participate inherently has both a receipt and a payment dimension. Individuals clearly differ as to when in time they prefer these payments and receipts. Some will prefer to take the gains and losses all at once while others will wish to receive the good now and make the payment later. Certainly, the existence of two dimensions of time horizon relative to payments and receipts are of interest and have relevance in a marketing context.

Individual difference tests in the non-student population demonstrated that consumers who do not like to wait to buy things on sale are the same ones that expect higher levels of compensation for waiting. A logical managerial implication is for stores to identify these customers and compensate them accordingly for waiting for out-of-stock merchandise or for waiting in line. Some customers do not expect to receive compensation for waiting. Stores should identify these individuals and provide some other promotional incentive. Incentives that will be preferred by this group of customers are sale prices and rain checks for out-of-stock items.

Limitations

Four major questions must be answered by researchers: (1) does a relationship exist between two variables? (2) if there is indeed a relationship, is that relationship "plausibly causal" from one variable to the other or would that relationship have existed without any experimental treatment? (3) given support for questions one and two, what constructs are involved in the cause/effect relationship? and (4) is this relationship generalizable? (Cook and Campbell 1979, page 39). Several threats to

validity exist in tandem with the preceding questions, including threats to internal, external, construct, and statistical conclusion validity. The limitations of the present research shall be organized around this Cook and Campbell (1979) discussion.

One major threat to internal validity involves that of hypothesis guessing. Efforts to minimize this threat included a between-subjects factor (Calder, Phillips, an Tybout 1981). The use of the within-subjects factor of time introduces the possibility of effects due to maturation and testing. The selection-sampling threat was minimized by randomly assigning individuals to treatments. Attempts to control threats to internal validity included conducting a lab study which allowed for closer control than field studies.

Another threat to internal validity concerns the issue of blocking variables. With the use of blocking, individuals are not randomly assigned but are assigned to treatments according to scores. Thus, the possibility remains that variance due to other individual difference variables was introduced. Another limitation is that connected with the lack of counterbalancing of the within-subjects measure for time. When the order of presentation of time measures was varied (i.e., 3, 6, and 9 months; 9, 6, and 3 months; 9, 3, and 6 months), respondents experienced confusion because a certain amount of mental calculation must take place from one time period to the next. When the time periods are presented out of order, these calculations are difficult to make. Thus, counterbalancing for the time measure was not undertaken in the main study. Future research should treat the "time" factor as a between subjects variable in order to minimize this possible threat to internal validity.

An attempt to control for threats to external validity was made by replicating the study on a sample taken from the general population. However, threats due to

self-selection bias remain. Respondents were offered $2.00 to participate in the study. Some of those approached did not want to participate while others did. A threat may exist because of effects due to the differences in the types of people who chose to accept the money and participate and those who did not. Additionally, convenience samples were used in the student populations. This could introduce factors that covary with the dependent measures and are unaccounted for in the experiment. External validity is further threatened by the pencil-and-paper hypothetical nature of the scenarios, a threat commonly found in intertemporal choice studies (Benzion et al. 1989). Finally, results cannot be generalized to other products and services because only one high-involvement durable was utilized.

An attempt to minimize threats to construct validity was made through assessing convergence across different measures of outcome valuations (i.e., monetary amounts and affective measures) and divergence between measures of distinct things (see Study I for these tests). However, in general, these measures did not converge. This lack of convergence was likely due to respondents' confusion (discussed below) over the affective measures toward the deal and the reality of suggesting your own compensation or interest payment. First, respondents were presented with a change in expectations. Then, they were given the opportunity to name a price that would make them indifferent between paying/receiving now/later. It is likely that they were confused over whether they were rating the change in expectations or whether they were rating the opportunity to name their price. Thus, the exact nature of what these dependent variables (i.e., affect and purchase intentions) were measuring is in question. To assess whether or not the changes in expectations were viewed consistently with the TOV assumptions (i.e., a delayed gain should be viewed as a loss, an advanced gain

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should be viewed as a gain, etc.), a post-hoc test was conducted in which respondents were asked to rate a scenario as a gain/loss in the absence of 'naming a price' to aright the situation. These results indicated that, consistent with TOV assumptions, a delayed gain was viewed as a loss, an advanced gain was viewed as a gain, and so forth.

Mono-method bias was not controlled for in the assessment of scales in Study I since only one method was used, and, therefore, exists as a threat to construct validity.

Threats to statistical conclusion validity were minimized through large sample sizes (to avoid low statistical power) and alpha set at .05, using conservative multiple comparison tests, and randomization of subjects to experimental condition. One threat to statistical conclusion validity that must be acknowledged was the lack of constant variance-covariance matrices across groups in the repeated measures GLM.

Another threat involves the low reliability of the time horizon for receipt of goods factor as well as the locus of control scale. These poor results could contribute to a lack of findings in the student population. One way of controlling for the unreliability of the time horizon factor would be to use more items; however, this was not undertaken in the present work and exists as a threat to statistical conclusion validity. Additionally, the items that emerged from purification for the receipt time horizon factor were very similar to those dealing with information search. Thus, the usefulness of this factor remains in question.

Future Research

Future research can proceed in a number of directions. A study should be conducted that examines the consistency or inconsistency of information and time delay (see Ganzach and Mazarsky 1995). Time delay should also be studied in the

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context of brand loyalty and commitment to a course of action. Additionally, innovativeness would be an interesting individual difference variable to introduce in such a study relative to waiting and commitment to a pre-established course of commitment.

Other work should be conducted that explores the number of pieces of information, individual differences in time horizon, and time delay. Prior product experience should be examined in terms of the number of pieces of information and individual time horizon relative to decision time.

Future research can look at type of good (convenience, specialty, etc.), amount of external/internal search, and looking time on satisfaction with the search (see Jacoby et al. 1976).

It would also be interesting to categorize products and services in terms of time spent searching, deciding, and purchasing.

A conceptual piece could be undertaken that examines the role of time in marketing theory and theory building. Important theories in the discipline could be analyzed in light of the element of time. Emergent commonalities could be generated after such a content analysis of theories resulting in recommendations for direction in building new theories.

Social dilemmas, free-riders, the sucker phenomena, and time orientation could be studied with experimental manipulations involving immediate gains and delayed losses.

Yet another study should look at high and low levels of payment and receipt time horizon and short distance versus long distance on satisfaction with the shopping experience.

In the delayed gain condition, the length of time of the delay could be manipulated along with the frequency of information given about the wait on valuations of the decision outcome.

Additionally, a content analysis should be undertaken that explores the information and emotional content of sales promotions. Specifically, is the amount of information provided and the emotional content related to the length of time specified in the promotion to take advantage of the offer?

A model could be developed to explain and predict involvement with sales promotions. Such predictors as time horizon, need for information, materialism, and reaction to deadlines could be included.

One interesting study would look at individual time horizon relative to seeking the advise of salespeople (see Bergadaá 1990). Is individual time orientation related to need for salesperson help in a retail setting? If it is, does satisfaction with the purchase process differ by the amount of help given by a salesperson?

Future work should explore by depth interviews the mind of the waiting customer. What are the emergent themes? How are these themes related to the type of wait? In other words, a wait that is expected should produce different responses from a wait that is unexpected. What do these waiting individuals expect from the business that is responsible for the wait? Are some types of compensation better than others? What about the provision of information about the wait and the frequency and typed of information delivered?

In relation to the preceding study outline, future work could develop a typology of costs and benefits in determining attitude toward the wait in the mind of the waiting customer (see Thaler's 1985 work on mental accounting).

High and low levels of time pressure with individual time horizon moderating the amount of external search would be of interest to academicians and practitioners alike.

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APPENDIX A

All Scales

Instructions

1. I would wait several weeks to get an item with all the features I want.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

2. I usually wait to buy things on sale.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

3. I tend to shop around to get a better price.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

4. I usually save up until I can pay cash for an item that I want.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

5. When I buy things, I consider how it will affect my future financial situation.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

6. I like to pay cash rather than use a credit card.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

7. I usually pay off my credit card bill each month.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

8. I try to pay off loans early.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

1. If I purchase something by mail, I would pay extra for quicker delivery.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

2. I would rather take an item off the shelf than a rain check for the item I really wanted.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

3. I often buy things at convenience stores.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

4. I generally buy whatever item the store has on hand rather than shop around.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

5. I buy a lot of things on credit.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

6. I use my credit card a lot.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

7. I usually buy things I want immediately and think about how I will pay for them later.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

8. "Buy now, no payment for 6 months" appeals to me.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

9. I expect the store to compensate me to wait for an item that is out of stock.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

10. A store should give me something if I have to wait in line a long time.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

1. I often focus on my body and how it feels.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

2. I do not ignore my body and I take care of it.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

3. I worry about making my body look good.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

4. Making my body look good is important to me.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

5. I pay a lot of attention to what my body is telling me.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

6. I devote some time each day to improving my body.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

1. If I really want to buy something, I frequently make the purchase quickly and think about the consequences later.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

2. I tend to spend money as soon as I earn it.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

3. I am the type of person who likes to slowly save up money in order to make large purchases.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

4. I enjoy going shopping and buying on impulse.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

5. I tend to think about alternatives a great deal before I buy things.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

6. I always pay off my entire credit card bill each month.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

7. If I have purchased something through mail order, I like to have the company express mail it, so I will get it more quickly.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

1. I often buy things spontaneously.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

2. "Just do it" describes the way I buy things.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

3. I often buy things without thinking.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

4. "I see it, I buy it" describes me.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

5. "Buy now, think about it later" describes me.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

6. Sometimes I feel like buying things on the spur-of-the-moment.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

7. I buy things according to how I feel at the moment.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

8. I carefully plan most of my purchases.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

9. Sometimes I am a bit reckless about what I buy.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

1. When I get what I want it's usually because I worked hard for it.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

2. When I make plans I am almost certain to make them work.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

3. I prefer games involving some luck over games requiring pure skill.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

4. I can learn almost anything if I set my mind to it.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

5. My major accomplishments are entirely due to hard work and intelligence.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

6. I usually don't make plans because I have a hard time following through on them.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

7. Competition encourages excellence.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

8. The extent of personal achievement is often determined by chance.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

9. On any sort of exam or competition I like to know how well I do relative to everyone else.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

10. Despite my best efforts I have few worthwhile accomplishments.

Strongly disagree   1   2   3   4   5   6   7   Strongly agree

ADDITIONAL INFORMATION

Circle **One:**

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1. Gender: Male   Female

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2. Marital Status: Single   Married   Divorced   Widowed

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3. Your Age: 18-20   21-25   26-30   31-40

     41-50   51-60   over 60

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4. Ethnicity: White   African-American   Hispanic

     Asian   Other (please specify)_____

ADDITIONAL INFORMATION

Circle **One**:

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1. Gender: Male Female

---

2. Marital Status: Single Married Divorced Widowed

---

3. Number of children at home: none one two three four five six

---

4. Your Age: 18-20 21-25 26-30 31-40

   41-50 51-60 over 60

---

5. Ethnicity: White African-American Hispanic

   Asian Other (please specify)_____

---

6. Occupation if retired, occupation before retirement). Please circle the **ONE** that best applies:

Laborer

Tradesman

Clerical

Manager

Professional (teacher, medical, etc.)

Public Service (policeman, fireman, etc.)

Military

Housewife

Unemployed

Other (please specify)_____

APPENDIX B

Scenarios

SURVEY

Last 7 digits of SS#_____
This identification is used only for the purpose of matching these responses to the second part of your responses to be taken in about two weeks.

This is a survey to gather information about people's buying patterns. The survey will take approximately 10 minutes to complete. Your participation in this research is greatly appreciated.

Please be aware that there are no right or wrong answers; your response is the best response. It is Important that you respond to each item on the survey. Your responses will remain strictly confidential and all results of the survey will be presented in aggregate form only.

Your participation is completely voluntary and if you so choose, you may discontinue your participation at any time during the survey.

Thank you for your assistance in this research.

Scenario A:

Imagine that you have decided to buy a home entertainment center and also imagine that your budget has the flexibility to allow for the purchase of a $4000 deluxe home entertainment setup built around a personal computer, a 31-inch tv, high-end sound, graphics capabilities, and a wireless keyboard.

A local, reputable store has advertised the $4000 deluxe model that you are interested in. You have spent some time shopping and have decided to buy this model at this particular store. You cannot find this particular brand and model anywhere else locally. Imagine that you are going in today to make the purchase. You wish to pay today since you are able to do so, and you plan on taking the entertainment center home with you today so that you can begin enjoying it tonight.

You are now asked to make <u>3 different decisions</u> about this buying situation with 3 different time periods (3 months, 6 months, and 9 months):

Please continue to the next page.

1. When you get to the store, the salesperson informs you that there is only 1 of the advertised models still in stock. The store would like to keep it and offers to order the home entertainment center for you. You will receive the entertainment center in **3 months**. Because you will have to wait, the manager has authorized the salesperson to give you a cash incentive to compensate you for having to wait. You will receive this cash amount when the entertainment center arrives in **3 months**.

a. Did you feel that you had a loss or a gain in the description you just read?

Loss   1   2   3   4   5   6   7   Gain

b. The minimum amount of cash that I would want to get in order to wait the **3 months** for the $4000 home entertainment center is $_____.

c. Suppose that the store is actually going to give you the amount of cash you just named because of the **3 month** wait for the $4000 entertainment center. What is the likelihood that you would actually make the purchase if you are compensated for your wait?

Very low   1   2   3   4   5   6   7   Very high

d. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

2. When you get to the store, the salesperson informs you that there is only 1 of the advertised models still in stock. The store would like to keep it and offers to order the home entertainment center for you. You will receive the entertainment center in **6 months**. Because you will have to wait, the manager has authorized the salesperson to give you a cash incentive to compensate you for having to wait. You will receive this cash amount when the entertainment center arrives in **6 months**.

a. Did you feel that you had a loss or a gain in the description you just read?

Loss		1	2	3	4	5	6	7	Gain

b. The minimum amount of cash that I would want to get in order to wait the **6 months** for the $4000 home entertainment center is $_____.

c. Suppose that the store is actually going to give you the amount of cash you just named because of the **6 month** wait for the $4000 entertainment center. What is the likelihood that you will actually make the purchase if you are compensated for your wait?

Very low	1	2	3	4	5	6	7	Very high

d. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

3. When you get to the store, the salesperson informs you that there is only 1 of the advertised models still in stock. The store would like to keep it and offers to order the home entertainment center for you. You will receive the entertainment center in **9 months**. Because you will have to wait, the manager has authorized the salesperson to give you a cash incentive to compensate you for having to wait. You will receive this cash amount when the entertainment center arrives in **9 months**.

a. Did you feel that you had a loss or a gain in the description you just read?

Loss   1   2   3   4   5   6   7   Gain

b. The minimum amount of cash that I would want to get in order to wait the **9 months** for the $4000 home entertainment center is $_____.

c. Suppose that the store is actually going to give you the amount of cash you just named because of the **9 month** wait for the $4000 entertainment center. What is the likelihood that you will actually make the purchase if you are compensated for your wait?

Very low   1   2   3   4   5   6   7   Very high

d. Rate your overall feelings about this store's deal (please rate all 4):

Bad   1   2   3   4   5   6   7   Good

Unfair   1   2   3   4   5   6   7   Fair

Unbelievable 1   2   3   4   5   6   7   Believable

Dishonest   1   2   3   4   5   6   7   Honest

Finally, what were your feelings as you read this description?

_____

_____

_____

_____

Scenario B:

Imagine that you have decided to buy a home entertainment center. The one you want is a $4000 deluxe home entertainment setup built around a personal computer, a 31-inch tv, high-end sound, graphics capabilities, and a wireless keyboard. Imagine that your budget has the flexibility to make this purchase.

A local, reputable store has advertised the $4000 deluxe model that you are interested in. You have spent some time shopping and have decided to buy this model at this particular store. You cannot find this particular brand and model anywhere else locally. In fact, imagine that you are going in today to make the purchase and you have planned to pay immediately.

You are now asked to make <u>3 different decisions</u> about this buying situation with 3 different time periods (3 months, 6 months, and 9 months):

Please continue to the next page.

1. Upon checking out, the salesperson informs you that you have the option of paying now or paying in **3 months**. In either case, you will take the entertainment center home today. If you choose to pay later, you will pay more than the $4000 because of interest. Imagine that you like the sound of the store's 'pay later' option and you have decided to pay later.

a. Did you feel that you had a loss or a gain in the description you just read?

Loss		1	2	3	4	5	6	7	Gain

b. If I can wait for **3 months** to pay for the home entertainment center, the most I would **add** to the $4000 so that I can wait to pay is $_____.

c. Suppose that the amount you just provided is the amount of interest that the store would charge for delaying payment for **3 months** on the $4000 entertainment center. What is the likelihood that you will actually make the purchase if this is the amount of interest that you will pay?

Very low	1	2	3	4	5	6	7	Very high

d. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

2. Upon checking out, the salesperson informs you that you have the option of paying now or paying in **6 months**. In either case, you will take the entertainment center home today. If you choose to pay later, you will pay more than the $4000 because of interest. Imagine that you like the sound of the store's 'pay later' option and you have decided to pay later.

a. Did you feel that you had a loss or a gain in the description you just read?

Loss   1   2   3   4   5   6   7   Gain

b. If I can wait for **6 months** to pay for the home entertainment center, the most I would **add** to the $4000 so that I can wait to pay is $_____ .

c. Suppose that the amount you just provided is the amount of interest that the store would charge for delaying payment for **6 months** on the $4000 entertainment center. What is the likelihood that you will actually make the purchase if this is the amount of interest that you will pay?

Very low   1   2   3   4   5   6   7   Very high

d. Rate your overall feelings about this store's deal (please rate all 4):

Bad   1   2   3   4   5   6   7   Good

Unfair   1   2   3   4   5   6   7   Fair

Unbelievable   1   2   3   4   5   6   7   Believable

Dishonest   1   2   3   4   5   6   7   Honest

3. Upon checking out, the salesperson informs you that you have the option of paying now or paying in **9 months**. In either case, you will take the entertainment center home today. If you choose to pay later, you will pay more than the $4000 because of interest. Imagine that you like the sound of the store's 'pay later' option and you have decided to pay later.

a. Did you feel that you had a loss or a gain in the description you just read?

Loss   1   2   3   4   5   6   7   Gain

b. If I can wait for **9 months** to pay for the home entertainment center, the most I would **add** to the $4000 so that I can wait to pay is $_____.

c. Suppose that the amount you just provided is the amount of interest that the store would charge for delaying payment for **9 months** on the $4000 entertainment center. What is the likelihood that you will actually make the purchase if this is the amount of interest that you will pay?

Very low   1   2   3   4   5   6   7   Very high

d. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

Finally, what were your feelings as you read this description?

_____

_____

_____

_____

Scenario C:

You have decided to buy a home entertainment center. Imagine that your budget has the flexibility to allow for the purchase of a $4000 deluxe home entertainment setup built around a personal computer, a 31-inch tv, high-end sound, graphics capabilities, and a wireless keyboard.

A local, reputable store has advertised the $4000 deluxe model, and the ad says that the model **has to be ordered from the manufacturer and will be delivered later.** You are interested in this particular model. You have spent some time shopping and have decided to buy this model at this particular store since it is not available anywhere else locally. In fact, you are going in today to make the purchase, and you plan on paying today and ordering the home entertainment center.

You are now asked to make 3 different decisions about this buying situation with 3 different time periods (3 months, 6 months, and 9 months):

Please continue to the next page.

1. The ad said that the model has to be ordered from the manufacturer and will be delivered later. When you go in to make the purchase, you are told by the salesperson that the store has a limited number of the models on hand because they received them unexpectedly from the manufacturer. The salesperson tells you that you can purchase one of those on hand but because of demand, the store is charging a premium above the ordered price if you take one in stock with you today. You can wait for the home entertainment center to be delivered in **3 months** or you can pay extra and get one today. Imagine that you like the idea of walking out with one today even though it will cost more.

a. If I can get the model I want today instead of waiting **3 months** for delivery, the most I would **add** to the $4000 price is $_____.

b. Suppose that this is the actual amount you would pay to get the $4000 entertainment center today instead of waiting **3 months**. What is the likelihood that you will actually make the purchase by paying more so that you can get the model you want today?

Very low	1	2	3	4	5	6	7	Very high

c. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

2. The ad said that the model has to be ordered from the manufacturer and will be delivered later. When you go in to make the purchase, you are told by the salesperson that the store has a limited number of the models on hand because they received them unexpectedly from the manufacturer. The salesperson tells you that you can purchase one of those on hand but because of demand, the store is charging a premium above the ordered price if you take one in stock with you today. You can wait for the home entertainment center to be delivered in **6 months** or you can pay extra and get one today. Imagine that you like the idea of walking out with one today even though it will cost more.

a. If I can get the model I want today instead of waiting **6 months** for delivery, the most I would **add** to the $4000 price is $_____.

b. Suppose that this is the actual amount you would pay to get the $4000 entertainment center today instead of waiting **6 months**. What is the likelihood that you will actually make the purchase by paying more so that you can get the model you want today?

| Very low | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very high |

c. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

3. The ad said that the model has to be ordered from the manufacturer and will be delivered later. When you go in to make the purchase, you are told by the salesperson that the store has a limited number of the models on hand because they received them unexpectedly from the manufacturer. The salesperson tells you that you can purchase one of those on hand but because of demand, the store is charging a premium above the ordered price if you take one in stock with you today. You can wait for the home entertainment center to be delivered in **9 months** or you can pay extra and get one today. Imagine that you like the idea of walking out with one today even though it will cost more.

a. If I can get the model I want today instead of waiting **9 months** for delivery, the most I would **add** to the $4000 price is $_____.

b. Suppose that this is the actual amount you would pay to get the $4000 entertainment center today instead of waiting **9 months**. What is the likelihood that you will actually make the purchase by paying more so that you can get the model you want today?

Very low   1   2   3   4   5   6   7   Very high

c. Rate your overall feelings about this store's deal (please rate all 4):

Bad   1   2   3   4   5   6   7   Good

Unfair   1   2   3   4   5   6   7   Fair

Unbelievable 1   2   3   4   5   6   7   Believable

Dishonest   1   2   3   4   5   6   7   Honest

Finally, what were your feelings as you read this description?

_____

_____

_____

_____

_____

Scenario D:

You have decided to buy a home entertainment center. Imagine that your budget has the flexibility to allow for the purchase of a $4000 deluxe home entertainment setup built around a personal computer, a 31-inch tv, high-end sound, graphics capabilities, and a wireless keyboard. A local, reputable store has advertised the $4000 deluxe model that you are interested in. You have spent some time shopping and have decided to buy this model at this particular store since it is not available anywhere else locally.

You are now asked to make <u>3 different decisions</u> about this buying situation with 3 different time periods (3 months, 6 months, and 9 months):

Please continue to the next page.

1. The ad says that you can buy now and pay for the purchase in **3 months**. You have spent some time shopping and have decided to buy this model at this particular store. In fact, you are going in today to make the purchase and you expect to leave with the home entertainment center, but you have planned to pay **in 3 months**. The salesperson informs you that the store is offering an incentive of a reduced price to get customers to pay immediately upon purchase. Imagine that you like this idea and have decided to take advantage of the incentive.

a. If I am going to pay today instead of paying $4000 in **3 months**, I would **reduce** the $4000 by $_____ so that I don't mind paying today.

b. Suppose the store will reduce the $4000 price by the amount you just gave as incentive for you to pay now as opposed to waiting for **3 months**. What is the likelihood that you will choose to pay now and get this amount knocked off the price?

Very low	1	2	3	4	5	6	7	Very high

c. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

2. The ad says that you can buy now and pay for the purchase in **6 months**. You have spent some time shopping and have decided to buy this model at this particular store. In fact, you are going in today to make the purchase and you expect to leave with the home entertainment center, but you have planned to pay in **6 months**. The salesperson informs you that the store is offering an incentive of a reduced price to get customers to pay immediately upon purchase. Imagine that you like this idea and have decided to take advantage of the incentive.

a. If I am going to pay today instead of paying $4000 in **6 months**, I would **reduce** the $4000 by $_____ so that I don't mind paying today.

b. Suppose the store will reduce the $4000 price by the amount you just gave as incentive for you to pay now as opposed to waiting for **6 months**. What is the likelihood that you will choose to pay now and get this amount knocked off the price?

Very low	1	2	3	4	5	6	7	Very high

c. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

3. The ad says that you can buy now and pay for the purchase in **9 months**. You have spent some time shopping and have decided to buy this model at this particular store. In fact, you are going in today to make the purchase and you expect to leave with the home entertainment center, but you have planned to pay in **9 months**. The salesperson informs you that the store is offering an incentive of a reduced price to get customers to pay immediately upon purchase. Imagine that you like this idea and have decided to take advantage of the incentive.

a. If I am going to pay today instead of paying $4000 in **9 months**, I would **reduce** the $4000 by $_____ so that I don't mind paying today.

b. Suppose the store will reduce the $4000 price by the amount you just gave as incentive for you to pay now as opposed to waiting for **9 months**. What is the likelihood that you will choose to pay now and get this amount knocked off the price?

Very low	1	2	3	4	5	6	7	Very high

c. Rate your overall feelings about this store's deal (please rate all 4):

Bad	1	2	3	4	5	6	7	Good
Unfair	1	2	3	4	5	6	7	Fair
Unbelievable	1	2	3	4	5	6	7	Believable
Dishonest	1	2	3	4	5	6	7	Honest

Finally, what were your feelings as you read this description?

_____

_____

_____

_____

How much would a store charge for the new home entertainment center that you just read about 9 months from now?

$_____

2. Please rate 3 months on whether or not it is a short time or a long time:

        Short time   1   2   3   4   5   6   7   Long time

3. Please rate 9 months on whether or not it is a short time or a long time:

        Short time   1   2   3   4   5   6   7   Long time

4. Rate a home entertainment center with tv and personal computer such as the one you just read about:

        unimportant   1   2   3   4   5   6   7   important

        of no concern
        to me   1   2   3   4   5   6   7   of concern to
                                                                                me

        doesn't matter
        to me   1   2   3   4   5   6   7   matters to me

Please estimate the amount you have spent on sale items in the last 6 months:$_____.

1. I work better with a deadline than without one.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

2. When I know that something has to be done by a certain time, I usually get it done.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

3. I normally respond well when I have a lot of things to do and little time to do them.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

4. I usually do my best work when I have many things to get done in a day.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

5. I don't mind having a limited amount of time to get things done.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

---

1. I am one to seek out the help of a salesperson.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

2. I like to have a salesperson spend time with me when I am considering a purchase.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

3. If I am going to buy something from a mail order company, I prefer to talk with someone directly about my purchase.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

4. Typically, when I am about to buy something, I usually want the salesperson to advise me.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

1. In general, if I am going to buy something, I like to try and find some special promotional deal (such as coupons, samples, give-aways, rebates, or contests).

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

2. A special promotion for a product (such as coupons, samples, give-aways, rebates, or contests) will usually get my attention.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

3. I am one to look for special promotional deals when I shop.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

---

1. In general, I pay attention to advertisements for sales.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

2. " I look for sales" describes me.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

---

Please rate yourself as you generally tend to be:

Not expressive	1	2	3	4	5	6	7	Expressive
Dispassionate	1	2	3	4	5	6	7	Passionate
Calm	1	2	3	4	5	6	7	Excitable
Cold	1	2	3	4	5	6	7	Warm

1. I enjoy buying expensive things.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
2. I am not a materialistic person.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
3. Candidly, I like to own nice things more than most people.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
4. I have to admit that I enjoy owning luxurious things.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
5. Acquiring valuable things is important to me.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

1. I really enjoyed learning about new things.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
2. To me, information is the most important resource a person can have.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
3. I usually think hard before making decisions.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
4. People consider me to be an intellectual person.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
5. I like working on new ideas.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
6. I tend to read all of the information on a package before buying it.								
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

APPENDIX C

Design Integrity Checks

Scenario A

This is a survey to gather information about buying patterns. Please read the paragraph and answer the question. Your responses are strictly confidential.

Suppose that you saw an ad in the newspaper for a home entertainment center with a television and personal computer. You decide to buy the system and go to the store expecting to take it home. The manager tells you that they are out of stock. They cannot get another one for three months.

Circle the number on the scale below that best represents your evaluation of the situation.

1	2	3	4	5	6	7
Large loss			Neither Loss nor Gain		Large gain	

Scenario B

This is a survey to gather information about buying patterns. Please read the paragraph and answer the question. Your responses are strictly confidential.

Suppose that you saw an ad in the newspaper for a home entertainment center with a television and a personal computer. You go to the store expecting to pay for it. The owner tells you that you do not have to pay for 3 months.

Circle the number on the scale below that best represents your evaluation of the situation.

1	2	3	4	5	6	7
Large loss			Neither Loss nor Gain		Large gain	

Scenario C

This is a survey to gather information about buying patterns. Please read the paragraph and answer the question. Your responses are strictly confidential.

Suppose that you saw an ad in the newspaper for a home entertainment center with a television and a personal computer. The ad indicated that if you ordered now, you could receive it in 3 months. You decide to buy the system and go to the store expecting to order it. You get to the store, and the manager tells you that you can have it now.

Circle the number on the scale below that best represents your evaluation of the situation.

1	2	3	4	5	6	7
Large loss			Neither Loss nor Gain		Large gain	

Scenario D

This is a survey to gather information about buying patterns. Please read the paragraph and answer the question. Your responses are strictly confidential.

Suppose that you saw an ad in the newspaper for a home entertainment center with a television and a personal computer. The ad indicated that you could take the system home now, and would not have to pay for 3 months. You decide to buy the system, and go to the store expecting to receive it now, and pay for it later. You get to the store, and the manager tells you that they would like for you to pay for it now.

Circle the number on the scale below that best represents your evaluation of the situation.

1	2	3	4	5	6	7
Large loss			Neither Loss nor Gain		Large gain	

APPENDIX D

TOV Figures and Proof

FIGURE I
TOV MODEL

Psychological Value

t_0 (Present)

t_1 (Future)

Actual Value

t_1

t_0
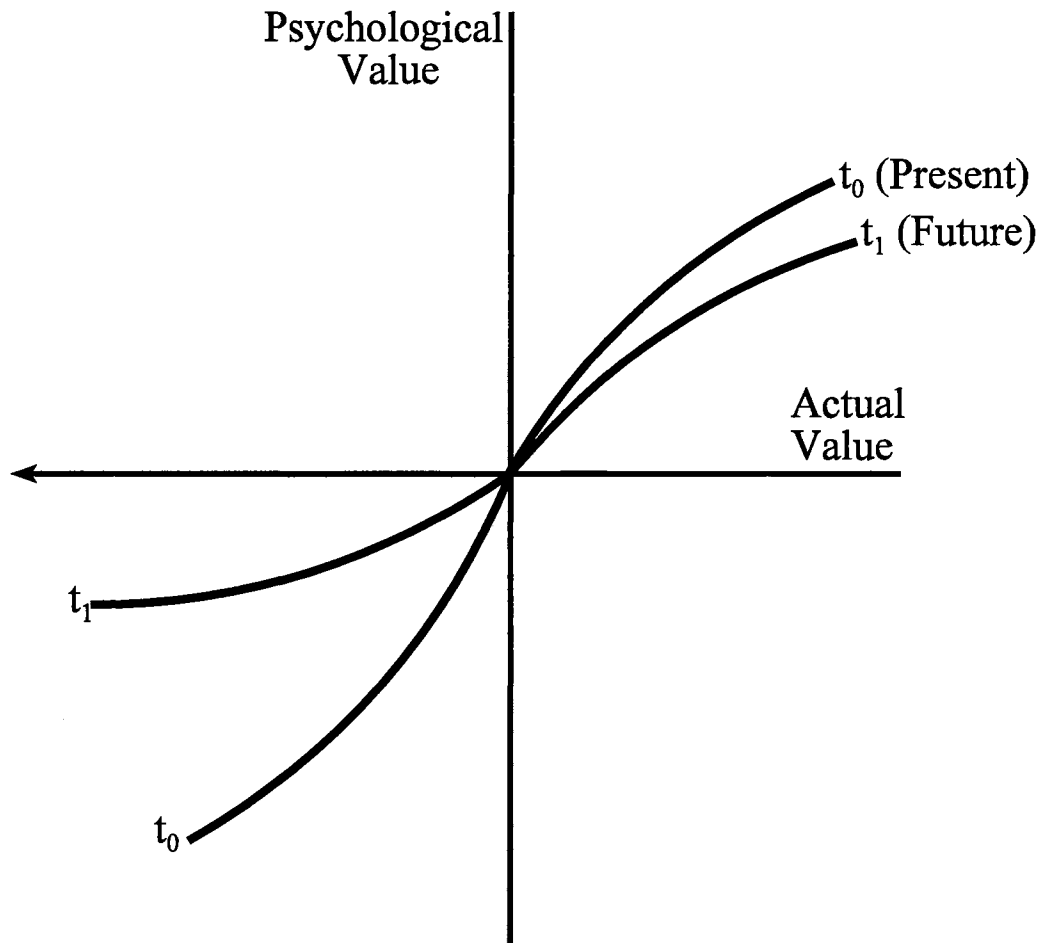
FIGURE II
MATHEMATICAL PROOF (see Figure III)

Given: ∠A = 90⁰   Prove: AD > HG
       ∠D = 90⁰
       ∠G = 90⁰
       ∠H = 90⁰
       ABCD and HEFG are quadrilaterals

---

1. ∠A=90° ∠D=90° ∠G=90° ∠H=90° ABCD and HEFG are Quadrilaterals	1. Given
2. DC parallel to AB FG parallel to EH	2. 2 lines in a plane are parallel if they are both perpendicular to the same line.
3. BC parallel to AD HG parallel to EF	3. TOV Assumptions 1-3.
4. Quadrilaterals ABCD and HEFG are parallelograms	4. A parallelogram is a quadrilateral in which both sides are parallel.
5. BC≻EF	5. TOV Assumption 4: Losses are discounted faster than gains.
6. AD ≅ BC HG ≅ EF	6. Opposite sides of a parallelogram are congruent.
7. AD = BC HG = EF	7. Definition of Congruence
8. ∴ AD ≻ HG	8. Substitution

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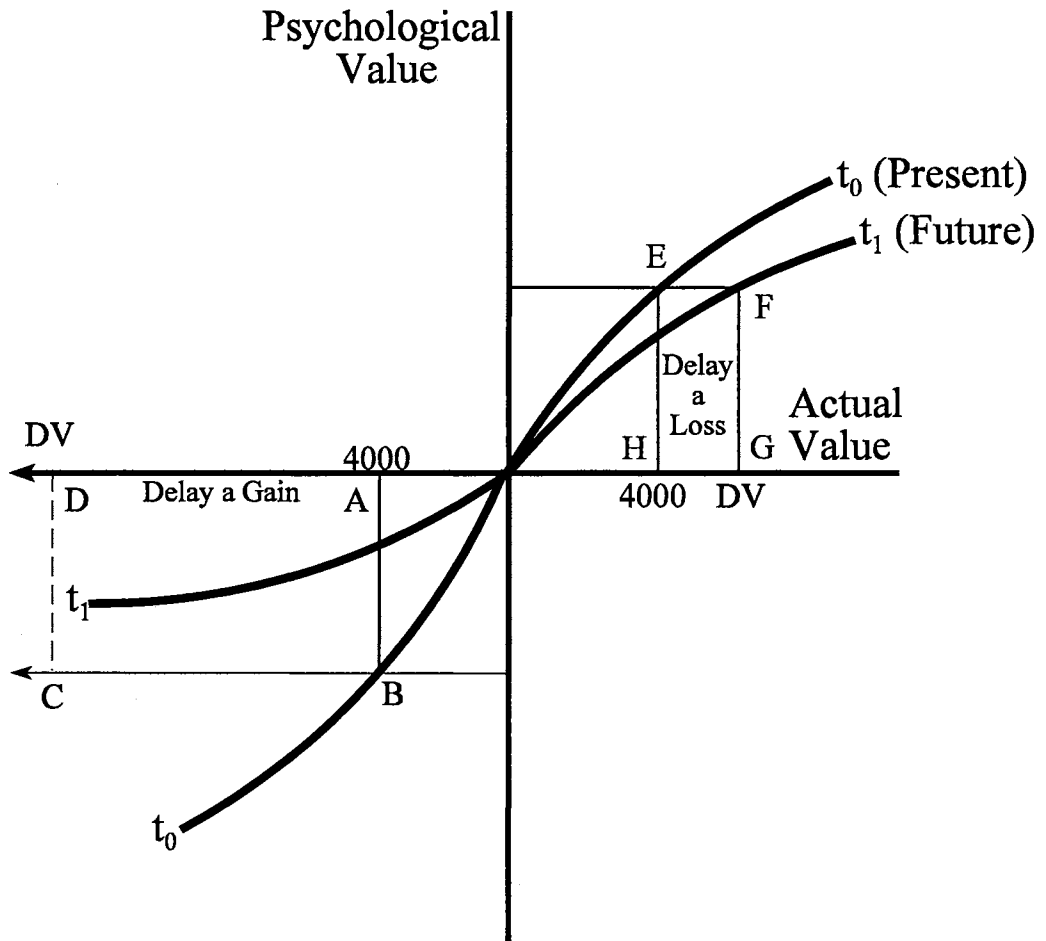# FIGURE III
DELAY A GAIN AND DELAY A LOSS

FIGURE IV
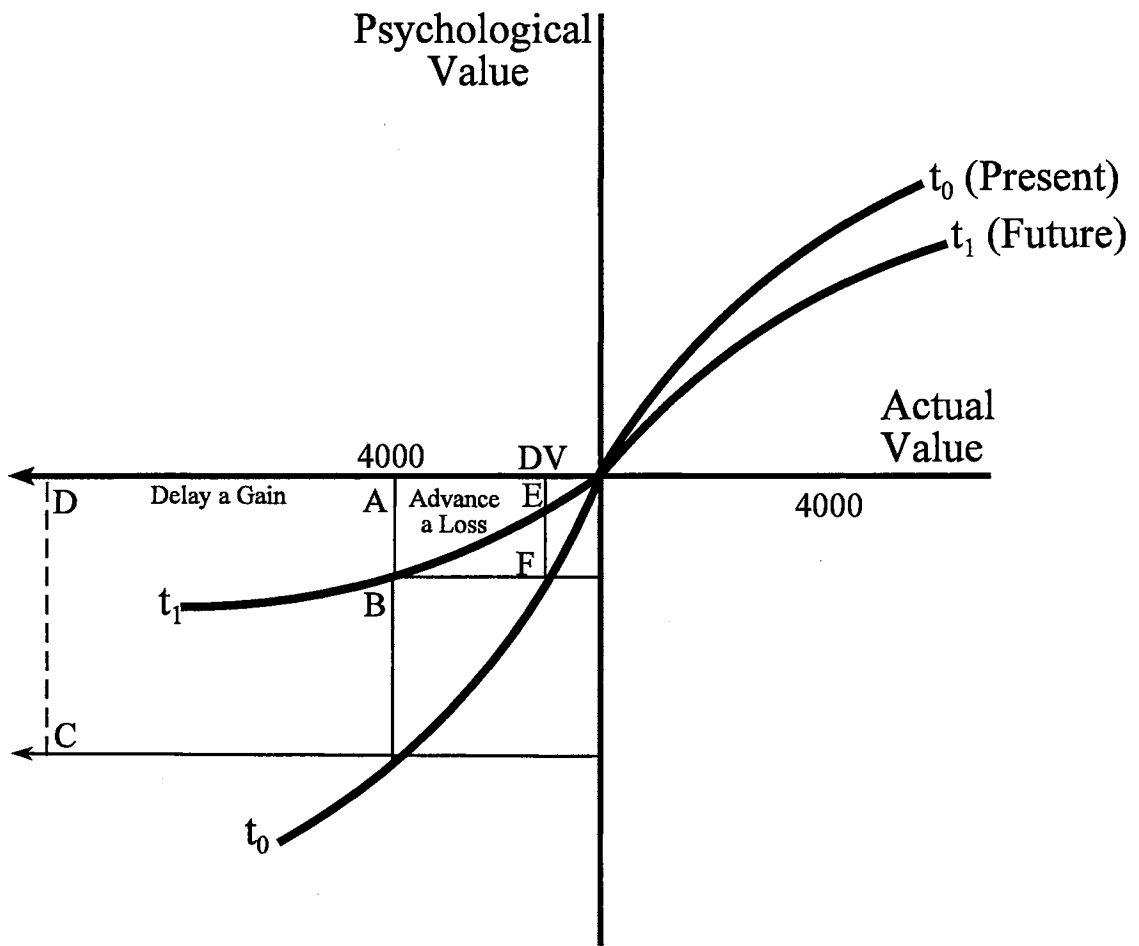## DELAY A GAIN AND ADVANCE A LOSS

FIGURE V
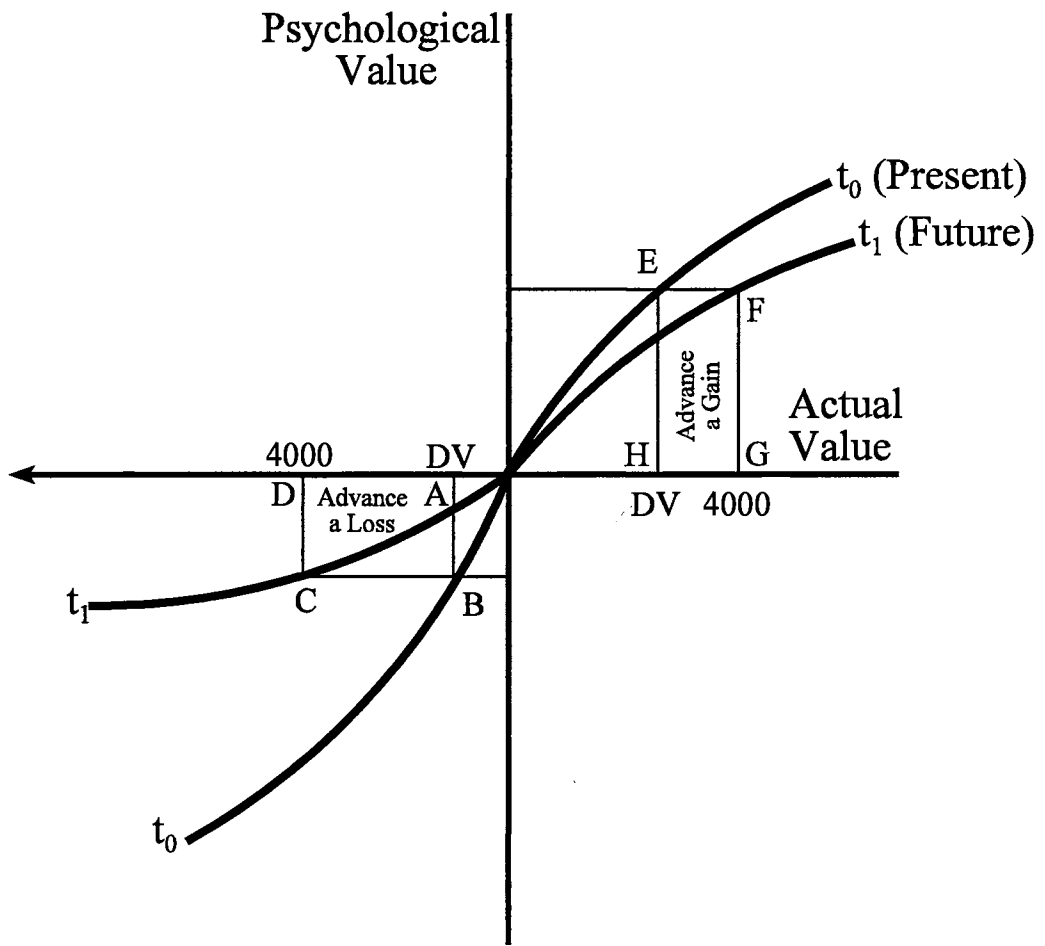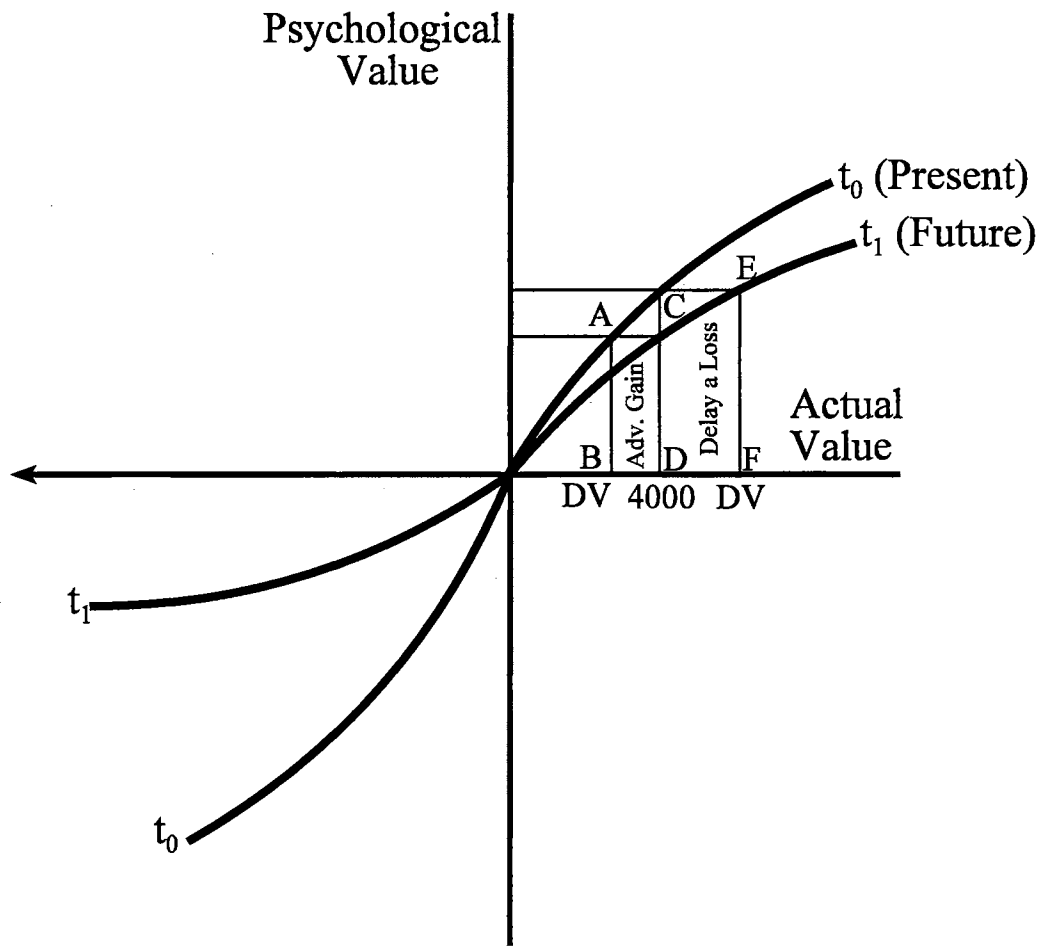## ADVANCE A LOSS AND ADVANCE A GAIN

FIGURE VI
ADVANCE A GAIN AND DELAY A LOSS

APPENDIX E

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 05-14-97   **IRB#:** BU-97-016

Proposal Title: GAINS AND LOSSES IN INTERTEMPORAL CHOICE:
THEORETICAL FRAMEWORK AND IMPLICATIONS FOR
PROMOTIONAL STRATEGY

Principal Investigator(s): John C. Mowen, Nancy E. Spears

Reviewed and Processed as: Exempt

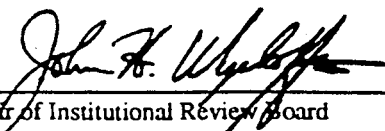**Approval Status Recommended by Reviewer(s):** Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD
AT NEXT MEETING, AS WELL AS ARE SUBJECT TO MONITORING AT ANY TIME DURING
THE APPROVAL PERIOD.
APPROVAL STATUS PERIOD VALID FOR DATA COLLECTION FOR A ONE CALENDAR YEAR
PERIOD AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE
SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR
APPROVAL.

Comments, Modifications/Conditions for Approval or Disapproval are as follows:

Signature: _____   Date: May 16, 1997

Chair of Institutional Review Board
cc: Nancy E. Spears

VITA

Nancy Elizabeth Spears

Candidate for the Degree of

Doctor of Philosophy

Thesis: GAINS AND LOSSES IN INTERTEMPORAL CHOICE: THEORETICAL
           FRAMEWORK AND IMPLICATIONS FOR PROMOTIONAL STRATEGY

Major Field: Business Administration

Biographical:

        Education: Graduated from the University of Texas at Austin, 1971. Completed
            the requirements for Bachelor of Science in Education with majors in
            Mathematics and English. Completed the requirements for the Doctor of
            Philosophy degree at Oklahoma State University in May, 1998.

        Professional Experience: Taught mathematics from 1987 until 1993 at the junior
            high and high school levels in El Paso and Houston.

        Professional Affiliations: American Marketing Association