THE EFFECT OF TEMPORAL DEADLINES ON THE LIKELIHOOD OF ENGAGING IN ANTICIPATED AND UNANTICIPATED GOALS

by

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Abstract

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Beth Antonuk

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The present research considers conflict created by goals that are anticipated, such that time is allocated towards their pursuit due to their association with a temporal deadline, and those unanticipated goals that arise and compete for limited time resources. Such a situation requires prioritization as well as a coordination of effort directed towards one or more goals. While extant goal literature describes the tendency to permanently disengage from goals for which achievement is deemed infeasible, the process by which individuals prioritize concurrently activated goals that conflict due to limited time resources has not been addressed by prior research. This work explores such a process, whereby the decision to behave in line with one goal, relative to another, varies based on one's temporal position in reference to a deadline.

Three studies demonstrate support for the contention that the choice to engage in behavior directed towards an anticipated goal, relative to an unanticipated goal, varies based on proximity to a temporal constraint (i.e., the individual is early or late). More specifically, study findings show that individuals place priority on and intend to behave

in line with an anticipated goal prior to reaching its deadline; on the other hand, individuals' unanticipated goals are more highly valued and are more likely to drive behavioral intentions once this point has been exceeded. This effect is accentuated when the consequences for exceeding the deadline are high, compared to low, and when the anticipated goal is of higher importance relative to the unanticipated goal. Support is found for an underlying affect regulatory process, whereby individuals seek to remedy the negative affect generated by a failure to behave in line with an anticipated goal by engaging in the unanticipated goal. Implications for goal theory and consumer behavior are considered.

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CHAPTER 1: INTRODUCTION

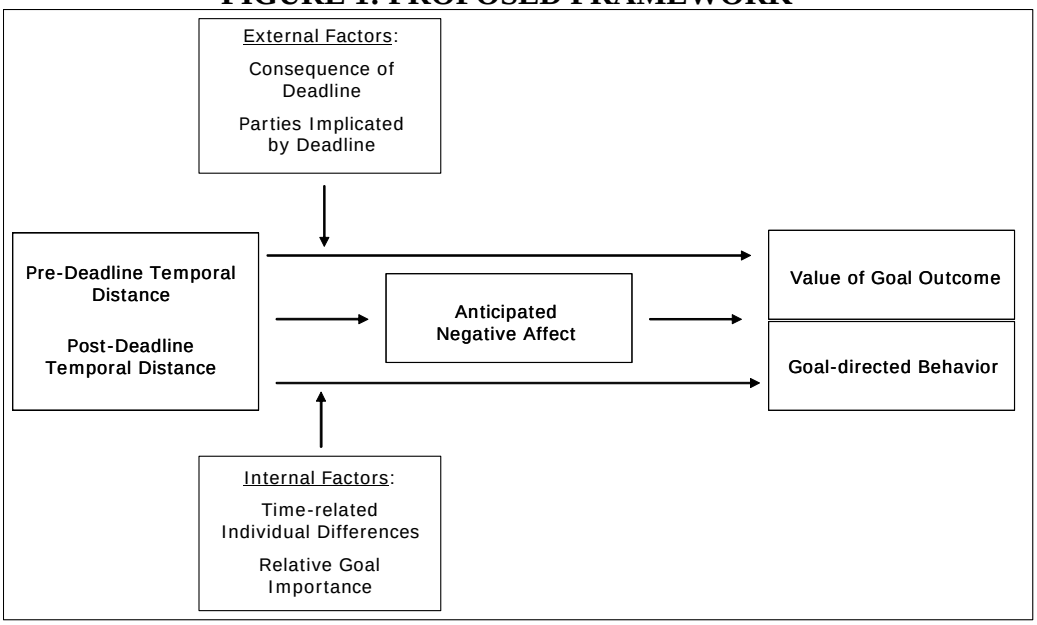
Imagine that you are on your way to a meeting that is scheduled to begin at 11 a.m. As you pass the cafeteria the desire for coffee suddenly hits you. You look at your watch – if you stay on your path you will arrive at the meeting right on time. If you deviate for the coffee, you will satisfy your craving but will arrive several minutes late to your meeting. At this crossroads, which goal do you select to immediately pursue and which do you put off until the other can be satisfied? Now, imagine that your watch indicates that you are already ten minutes late to the meeting. Does this change your choice between the conflicting pursuits?

As this scenario demonstrates, many consumption-related goals are anticipated, with time allocated towards their pursuit due to their association with a temporal deadline (e.g., the 11 a.m. meeting start time). On the other hand, unanticipated consumption-related goals often arise (e.g., the desire for coffee) and compete for an individual's limited time resources. If time were not constrained, the choice between conflicting pursuits would be less significant (i.e., if the commitment was to meet "Tuesday morning", rather than the specific time of 11 a.m., you would purchase the coffee and then go to the meeting). Yet the presence of temporal constraints often makes multiple goals inhibitory in nature, such that movement towards one goal necessarily means movement away from the other (i.e., purchasing the coffee means that you will be late to the meeting or, alternatively, arriving on time for the meeting means that you delay your coffee purchase).

Interestingly, both time and goal-related literature suggest that one method for dealing with such conflict is prioritizing and focusing on the highest priority goal before

attending to others (see Denton 1994; Dodge, Asher, and Parkhurst 1989). While extant research has considered processes of disengagement, or the complete relinquishment of a goal and goal-directed effort when conflict renders its outcome unattainable, the process by which individuals prioritize and switch between alternative, concurrently activated goals when one pursuit is accompanied by a temporal constraint has not been investigated. Building on the perception of time as a scarce resource and borrowing from goal theory, I propose a framework (see figure 1) that describes the behavior that individuals direct towards anticipated goals that are accompanied by a time constraint or, alternatively, goals that are not anticipated. Based on theories of psychological and temporal distance (e.g., Heath, Larrick and Wu 1999; Hull 1932; Kivetz, Urminsky, and Zheng 2006), I propose that individuals differentially value the outcome of and engage in behavior directed towards an anticipated goal, relative to an unanticipated goal, based on their proximity to the temporal constraint. In addition, I predict that internal and external factors related to time resources and the nature of the goals, themselves, will moderate the proposed effect of temporal distance.

FIGURE 1: PROPOSED FRAMEWORK



In line with the example depicting the tradeoff between coffee and on-time meeting arrival, this framework predicts that when you are early or on time (i.e., pre-deadline), higher value will be assigned to meeting arrival and, therefore, the purchase of coffee will be delayed. On the other hand, when you are already late (i.e., post-deadline) higher value will be assigned to the purchase of coffee and, therefore, meeting arrival will be delayed.

Prior research has explored the manner in which individuals consider and apply different resources (e.g., time versus money) to consumer decisions (Okada and Hoch 2004) was well as the compromises made between the conflicting behaviors needed to satisfy different types of goals (e.g., hedonic and utilitarian pursuits) in a single consumption episode (Dhar and Simonson 1999). Although time scarcity is identified as a primary source of goal conflict (Carver and Scheier 1998), the allocation of time resources when goals conflict due to the presence of a temporal constraint has, to the best of my knowledge, not been previously explored. While both time and goal literature suggest prioritizing conflicting options and acting in accordance with high priority goals before those deemed to be of lesser importance, the present research explores the process by which individuals switch between anticipated goals accompanied by temporal constraints and unanticipated alternatives. The demonstration of this process, as well as the identification of factors that influence it, will contribute to the understanding of decision making under conditions of time scarcity, as well as the processes of prioritization suggested in prior research.

Further, while goal striving literature has focused on conditions in which an individual is approaching a goal (i.e., pre-deadline), the present research also considers

instances where an individual experiences initial failure and is moving away from a goal (i.e., post-deadline). While extant literature has suggested that individuals disengage or abandon goals and associated goal-directed behavior when achievement is deemed impossible due to conflict (e.g., Klinger 1975; Wrosch, Scheier, Carver, and Schulz 2003), the present research focuses on prioritization among pursuits that remain concurrently activated. Rather than permanent relinquishment of one goal as a solution to the conflict, the proposed process suggests a more temporary form of disengagement, or goal switching, when time prohibits the simultaneous pursuit of multiple goals.

Understanding the process by which individuals alternate between conflicting pursuits carries implications for consumers since consumption-related goals can be either anticipated and planned for due to time constraints, or unanticipated and perhaps conflicting due to the scarce nature of time resources. The proposed process of goal prioritization and switching in response to distance from a goal-associated temporal deadline suggests that the outcome value of an anticipated goal (i.e., your scheduled meeting) as well as your likelihood of abandoning effort associated with this goal in order to pursue an alternative (i.e., purchasing coffee) varies based on the perceived likelihood of attaining your anticipated goal (i.e., arriving on time) or failing to do so (i.e., arriving late). While this proposed process carries implications for consumers in terms of goal achievement and associated well-being (Griffith and Graham 2004), it also sheds light on consumer decisions to minimize or further contribute to initial goal failure.

In order to develop a framework for exploring the process of prioritizing and switching between multiple pursuits when time renders them inhibitory, this manuscript begins with a review of relevant literature from both the time and goal domains. First,

Chapter 2 establishes the importance of time for consumer decision makers, as well as the characteristics of time that distinguish it from other resources and give rise to tradeoff situations in which multiple goals compete for limited quantities of time. The review of prior research on time pressure, scarcity, and allocation patterns will help to distinguish this research from prior studies while the discussion of the impact of temporal distance and time-related individual differences on time perception and decision making will lend support to the proposed framework. Next, Chapter 3 reviews relevant goal literature. The review focuses on the nature of goals, types of goals, and, in particular, conflicting goals. Further, the chapter discusses the effects of goal proximity, engagement in goal-directed behavior (or lack thereof), outcome value, and the various interrelationships between these constructs to lend support to the hypothesized relationships. In Chapter 4, I rely on this extant literature to derive the conceptual model and hypotheses for the present research. Chapters 5, 6, and 7 discuss the procedure and results of three empirical studies designed to test the hypotheses set forth in Chapter 4. Finally, this work concludes with a general discussion of the study findings, as well as implications and directions for future research. As discussed, I begin with a review of the extant, related literature on time.

CHAPTER 2: TIME SCARCITY AND RESULTING CONFLICT

Time is an important element of many consumer choices which are, due to the scarce nature of time resources, time allocation decisions. Deighton, Nicosia, and Wind (1983) describe time as the "ultimate scarce resource" and equate it to a currency since individuals pay for each life experience with time (p. 52). Time influences all decisions regardless of the possession of other resources and impacts not only the process of acquiring goods, but also the consumption of these items (Feldman and Hornik 1981; Jacoby, Szybillo, and Berning 1976). While an individual might have sufficient monetary resources spend the afternoon seeing a movie or visiting a spa, the limited number of hours that comprise the afternoon might necessitate a tradeoff between the two activities. Tradeoff situations are not uncommon since individuals frequently do not have enough time for everything that they want or need to accomplish.

Characteristics of time differentiate it from other resources and impose the requirement that individuals chose among activities that compete for time resources (Feldman and Hornik 1981). Generally, time is viewed as scarce because its supply is fixed and, since it is automatically used, it cannot be stored (Gross 1987). While we often wish for an extra hour to meet a deadline or an extra day of weekend time, our time supply is limited to 24 hours each day and seven days each week. In addition, regardless of how we spend our time, our supply continuously decreases. So that whether we spend the hour leading up to our deadline working or taking a surprise phone call from a friend, the hour is still subtracted. And, unfortunately, we are unable to store up an hour of downtime earlier in the day in order to increase our quota.

In addition, time is a resource which individuals plan to use. Just as they set budgets for monetary expenditures, individuals set budgets and track their progress against the reference point implied by the budget (Heath 1995). Schedules provide further restrictions for individuals (Zeckhauser 1973). Whether the constraints are based upon internally generated or externally imposed deadlines, these restrictions do not permit individuals to freely spend time. Therefore, time is a less fungible resource than money. Together, these distinguishing characteristics carry implications for research investigating time as a resource and, more specifically, that related to choices between the various activities that compete for individuals' finite time supplies.

Time allocation refers to the way in which individuals assign components of their fixed time supply to various activities. The finite nature of time implies that individuals may face either real or perceived time scarcity, such that they do not have enough time to accomplish all that they want or need to do. The present review of time-related literature will focus on this area due to its importance in terms of understanding time-related tradeoffs between anticipated pursuits, for which time use is planned, and unanticipated goals, for which time is not budgeted. The discussion begins with a review of extant literature on actual and perceived time scarcity, including the internal and external factors which influence each, and concludes with a discussion of the impact of time scarcity on consumer behavior.

2.1 PERCEPTIONS OF TIME (AND LACK THEREOF)

Kaufman-Scarborough and Lindquist (2003) describe time surpluses and shortages as "functions of matching one's place in time and space with perceived demands made by oneself and/or others" (p.353). Extant literature supports the

contention that time scarcity can be the result of an actual time shortage or perceived time shortage. Interestingly, despite the fact that individuals report feeling increasingly time scarce, Americans have even more free time than they have had in the past. Although they possess an average of 35 hours per week of free time, findings from time usage studies by Robinson and Godbey (1996, 2005) indicate that individuals approximate their weekly leisure time to be much lower, at approximately 20 hours. One reason for the difference between perceived and actual free time may be the inability to accurately estimate time use. For example, individuals have been shown to overestimate both time spent in health clubs and time spent working (Chase and Godbey 1983; Robinson and Godbey 1996).

The time-related literature reflects this difficulty in estimation by distinguishing between two types of time, actual and perceived. Actual time, or "clock" time, describes the objective measure of time as it passes (Fraisse 1984). Based on this perspective, one can describe the duration of an event in consistent terms (e.g., the class lasted 75 minutes). On the other hand, perceived time reflects an individual's subjective evaluation of the duration of events and the passing of time (e.g., the boring lecture seemed to go on for 7 hours; Hornik 1984). Next, extant literature on both actual and perceived availability of time is reviewed.

2.1.1 Determinants of Actual Time Shortage and Surplus

Dividing time between multiple tasks, roles, and goals can create an actual time shortage, wherein an individual does not have sufficient time resources to accomplish all necessary or desired tasks. Zeckhauser (1973) distinguishes between two types of decisions related to an individual's use of time: allocations involve the disposition of time

for different purposes (e.g., choosing to spend a Saturday shopping as opposed to working) and commitments, which involve relatively negligible amounts of time but can impact time allocations (e.g., moving to an apartment far from your desired shopping location). Further, Zeckhauser argues that external factors, or constraints, can influence time allocation (e.g., a fast approaching deadline might promote the decision to work on Saturday). The classification of a task and the impact of externally imposed deadlines are discussed as constraints influencing the actual availability of time.

2.1.1.1 Time Classification

Time-related tradeoffs might also be impacted by the level of commitment to a particular type of task. Feldman and Hornik's (1981) typology classifies time into four categories, namely work, necessities, home work, and leisure (for alternate classification schemes see Denton 1994; Lewis and Weigert 1981). Intentions to engage in activities associated with each type of time are shown to vary based on both personal and situational factors. Further, Hornik (1982) shows that the degree of latitude associated with time spent in different domains moderates this effect. Specifically, since most individuals do not work at their discretion, situational variables have less impact on work time compared to leisure time, as individuals presumably have greater freedom in choosing how this time is spent. Hornik suggests that since leisure time is discretionary in nature, the introduction of time constraints is more likely to reduce time spent in this category compared to necessities or home work, for example. In addition, some types of time (e.g., work time) are more likely to impose specific, temporal constraints, such as deadlines. Next, I discuss the role of such deadlines in creating temporal distance from a task which, in turn, can impact choice outcomes and behavior.

2.1.1.2 Deadlines and Temporal Distance

Consumer judgments and behaviors are shown to vary based on the temporal distance from the point of making a decision or engaging in a particular behavior. Considering a decision as the reference point, the present-bias effect states that, when considering tradeoffs between two future moments, stronger weight is given to the nearest time (O'Donoghue and Rabin 1999). Therefore, the decision that individuals make when an actual choice (or its ramifications) is far off may be quite different from the decision made in closer temporal proximity.

The present-bias effect has been implicated in the time-inconsistent preferences of consumers, who tend to give more weight to cognitive outcomes when temporal distance is long and more weight to affective outcomes when temporal distance is short (Hoch and Loewenstein 1991; Meyers-Levy and Maheswaran 1992). This results in a tendency to select options with immediate costs but long-term benefits in advance, but not when consumption is imminent. For example, the selection of a meal to be eaten in three weeks (long temporal distance) will likely be based on nutritional value while today's lunch choice may be more heavily influenced by taste. In general, negative outcomes are discounted as temporal distance increases and are discounted at a steeper rate than positive outcomes; that is, temporal distance decreases the salience of negative aspects (e.g., the poor taste of the nutritious meal is perceived to be lower the further away you are from the meal). Along similar lines, O'Donoghue and Rabin (1999) find that individuals are more likely to procrastinate, or to wait when they should act, when actions involve immediate costs (e.g., finishing your paper); on the other hand, individuals are more likely to preoperate, or act when they should wait, if the actions involve immediate

rewards (e.g., going to a movie). Together, these results demonstrate the tendency to rely more on cognitive inputs when temporal distance is high and more on affective inputs when temporal distance is low.

In addition to the outcomes resulting from the actual amount of time available, individuals differ in their perceptions of time shortage and surplus. These perceptions, which exist regardless of actual time supply, are discussed next.

2.1.2 Perceived Time Shortage and Surplus

In addition to actual time scarcity, individuals may have sufficient time but perceive a scarce supply of their resources. The extant literature describes characteristics of events that result in varying perceptions of duration. The impact of situational factors, personality variables, and culture on perceptions and resulting behaviors are discussed.

2.1.2.1 Situational Factors

Differences between actual and perceived duration have been explored extensively in the consumer behavior literature, particularly as they relate to waiting time (e.g., Hornik 1984; Davis and Vollman 1990; Antonides, Verhoef, and van Aalst 2002). While perceptions of duration differ from perceptions of scarcity, this related research provides support for the distinction between actual and perceived time.

Interestingly, perceived duration of time is shown to differ from actual time based on characteristics of the time interval, such as personal enjoyment of the task (Hornik 1984), mood (Kellaris and Mantel 1994), ability of an individual to envision alternate ways of passing the time (Cotte and Ratneshwar 2000), and congruence between cognitive resources required for the task and those available (Mantel and Kellaris 2003). Consequently, a lecture that is boring, or for which a student arrives unprepared, may

seem like 175 minutes while interesting material and student preparation may decrease the perceived class duration.

Ackerman and Gross (2003) demonstrate that perceived time pressure increases as the number of potential discretionary (as opposed to required) activities with which to occupy one's time increases. In such situations, individuals are forced to manage limited amounts of free time in order to engage in as many desirable tasks as possible. Ackerman and Gross argue that feelings of time deprivation result from the necessity to decline alternatives and, in line with reactance theory, the desirability of those necessarily forgone options increases as individual freedom to engage in the task is threatened due to lack of time (Brehm 1989).

2.1.2.2 Individual Differences in Time Style

In addition to the impact of situational factors on time perception, a number of time-related individual difference measures support the contention that individual characteristics impact time perceptions. Individuals demonstrate consistent patterns with regard to time experience and usage, or *time styles*. Therefore, an individual classified as having a "late" time style will tend to be late across situations, rather than the individual who is occasionally late based on situational factors. Rather than merely considering the allocation of time, time style refers to how an individual tends to use time to satisfy needs and goals (Denton 1994; Gross 1987). Relevant individual difference measures are reviewed next.

2.1.2.2.1 Time Personalities. Based on a number of time-related constructs found in prior literature, Francis-Smythe and Robertson (1999) develop the five-factor Time Personality Indicator (TPI) to synthesize time-related individual difference measures. The

TPI consists of the following subscales: leisure time awareness, or perception and awareness of clock time for hours spent outside of working hours; punctuality, or attitude towards being "on time"; planning, or likelihood for scheduling tasks in advance; polychronicity, or preference for doing more than one task during an allotted period of time (i.e., multitasking); and impatience, or the tendency to want to complete a given task quickly. Higher scores on each dimension represent an individual who "is generally very aware of passing time, has a need to set and meet deadlines, to plan their time and activities, to have several things on the go at the same time and to generally try to do more in less time by maybe hurrying along both other people and themselves" (p. 287).

Francis-Smythe and Robertson argue that the individual TPI factors may work independently to predict time-based attitudes and behaviors; they may also interact either with situational factors or with one another. For example, an individual who is high in impatience or punctuality may be more likely to fall victim to the tensions created by time-related conflict when it appears that a task will take longer than anticipated, or perhaps make one late in beginning another task. On the other hand, those who score higher in planning and/or polychronicity may be better equipped to handle these tensions, as their ability to manage time will remedy the shortage.

Based on the proposition that individuals have different time personalities, Kaufman-Scarborough and Lindquist (2003) identify the tendency for some individuals to consistently see themselves as "time rich" or "time poor," regardless of circumstances indicating time supply (or lack thereof). So while two individuals might have the same schedule demands, time personality differences may result in one perceiving sufficient time to accomplish necessary tasks and the other perceiving a time shortage. Kaufman-

Scarborough and Lindquist also show that objective time demands (e.g., the more hours worked per week) impact perceptions of time scarcity and that high levels of time scarcity correlate with lack of planning, wasting time, and other related inefficiencies.

2.1.2.2.2 Role Conflict. In addition to perceptions of scarcity, roles can also impact perceptions of time availability. In the development of the Time Structure Questionnaire (TSQ), which measures individual differences in the degree of structure and purposive use of time in completing everyday tasks, Bond and Feather (1988) assess differences between individuals with higher and lower likelihood to experience role conflict. Among student participants, they find that those who are employed, married or in a romantic relationship, or enrolled in part-time academic programs exhibit a greater degree of structure in their use of time compared to unemployed, single, or full-time students. The fact that the former groups of students presumably have a higher degree of role conflict and, therefore, competing goals, suggests that such conditions necessitate and/or facilitate successful time allocation strategies. In turn, overall scores on the TSQ correlate with measures of psychological health, including high self-esteem and low trait anxiety, as well as behaviors that support well-being, such as delay avoidance and effective work methods.

2.1.2.2.3 Punctuality. Considered an element of a number of personality dimensions, such as conscientiousness (Roberts et al. 2004) and anxiety (Richard and Slane 1989), punctuality has also been explored as an individual difference related to time allocation. James and Fleck (1986) conceptualize punctuality as a function of both individual differences and situational factors. Their behavioral study assigned participants to different types of appointments (i.e., an appointment with a tutor, a meeting with a

friend, a lecture related to course material, or an experiment), which were rated as having different levels of importance, and measured arrival time. Their findings demonstrated differential patterns of punctuality depending on both trait characteristics and the type of appointment. Individuals showed a general tendency to arrive either early or late across appointment type; further, they were more likely to be on time for appointments that they considered to be of high importance and late for those that they considered to be of lower importance.

2.1.2.3 Cultural Influence

In addition to individual level variables, Graham (1981) acknowledges differences in time perception based on culture. Graham proposes that most Europeans and Americans share the linear-separable view of time. The linear aspect of this perspective refers to the viewpoint that time has a past, present, and future and that the consequences of actions taken in these timeframes are not independent of one another. Such a view is future-oriented, such that present actions impact progress towards a future state. In addition, the linear separable view states that time can be separated into discrete units (e.g., minutes, hours, and days) that can, in turn, be allocated across different tasks. The premise is that time units are typically assigned to one activity and are distributed across different activities in a manner that maximizes utility. Under this view, the discreteness of time results in its classification as a resource similar to money. As Graham observes, most Anglos use the same adjectives to refer to time as they do money; specifically, time can be “spent,” “saved,” “wasted,” and even “bought.” This perspective can be contrasted with a circular-traditional view, which says that time is a circular system where the same

events are repeated, or a procedural-traditional view, where activities are driven by the tasks that need to be accomplished, without regard to their temporal duration.

In addition, the accuracy of time and resulting behavior are shown to vary across cultures. In a study comparing the United States with Brazil, Levine, West, and Reis (1980) show that Brazilian public clocks and the watches of Brazilians are less accurate that those of Americans. In addition, Brazilians without watches were less accurate in reporting the time of day; however, they were more flexible in classifying people as "early" or "late" with regard to a deadline and were more likely to attribute lateness to external factors that Americans. Overall, punctuality was more highly valued by American participants than Brazilian participants.

In sum, perceptions of time and time scarcity can be either real or perceived and vary based on situational factors, individual differences, and cultural factors. Extant literature on the influence of time shortages on consumer decision making and behavior is discussed next.

2.2 THE IMPACT OF SCARCITY ON CONSUMERS

Time scarcity has been shown to impact a variety of behaviors. Building a conceptual model of time use, Hendrix (1984) identifies a series of antecedents to expenditures of time, including values, roles, temporal orientation and resources. Hendrix identifies role overload and conflict as potential outcomes resulting from one's time-related perceptions and expenditures. As individuals occupy a variety of roles, the duties of which must be carried out in a limited amount of time, Hendrix argues that commitment to one role might be reduced or, in extreme cases, that an individual might withdraw from a particular role or associated task when time scarcity arises.

Further, research by Denton (1994) proposes strategies that individuals can use to adapt time resources in the face of scarcity. Specifically, an individual might chose to reorder priorities and focus on higher ranked tasks, compared to those with lower levels of importance; devote less time to one activity in order to create more time for another; attempt to engage in multiple tasks at once (polychronicity); acquire more efficient methods for task completion; expand time by having others perform tasks; or eliminate a conflicting option. Denton notes that the option that individuals chose to eliminate is likely to be the one of lowest priority.

In addition to general behavior, extant literature demonstrates that consumption behaviors are impacted by time scarcity. For instance, time shortages can lead to the substitution of goods for time (Ackerman and Gross 2003). In addition, individuals tend to adapt the manner in which they process information when facing a time constraint; specifically, processing tends to accelerate (Ben Zur and Breznitz 1981), become more selective (Wallsten 1993), and even decision strategies themselves can change (Payne, Bettman, and Johnson 1988). Further, Payne, Bettman, and Luce (1996) show that individuals are adaptive with regard to the strategies that they use when the outcome of a decision is negatively impacted by delay; specifically, when an outcome is contingent upon making a decision prior to a deadline (e.g., selecting a choice between two outcomes and being rewarded based on the time used to make the decision), individuals tend to change the way that they make their decision, in line with the previously cited studies, in order to optimize the outcome. In addition, rather than modifying the decision strategy, Diederich (2003) demonstrates that time pressure might change relative preference for attributes in multi-attribute choice scenarios.

In addition, the affect generated in the face of time shortages has been explored. Associated with Type A behavioral patterns, high scorers on individual difference measures of time urgency appear to be more prone to suffer from negative affective states and associated stress levels that accompany time scarcity (e.g., feelings of stress and anxiety; Conte, Landy, and Mathieu 1995; Denton 1994; Landy et al. 1991). Additionally, Macan et al. (1990) explore the relationship between the time management skills of college students and both academic performance and stress levels. Their review of time management literature identifies (1) ranking wants and needs and (2) allocating time accordingly as the most frequently cited recommendations for avoiding time-related stress. Interestingly, their four-factor scale demonstrates that perceptions of control over time have more influence on time management than behavioral determinants, such as setting goals, scheduling tasks, and becoming more organized. Their results show that individuals who perceive more control over time, as measured by items such as, "I feel in control of my time" and, "I find myself overwhelmed by trivial and unimportant tasks," demonstrate more positive evaluations of their work, experience less role ambiguity and overload, and report less tension. This finding is consistent with earlier work by Schuler (1979), who associates time management with lower stress levels as well as greater efficiency, satisfaction with work, and health.

2.3 CONCLUSION

While the present review has considered a number of factors that impact both actual and perceptions of time shortages, the question remains as to how individuals make choices between multiple pursuits that conflict due to the finite nature of time resources. Next, I review relevant goal literature, specifically that related to conflicting

goals and resulting behavior, in order to obtain further insight into conflicts created by competing options.

CHAPTER 3: MULTIPLE GOALS AND RESULTING CONFLICT

Goals drive consumer decisions across a number of domains; for example, the decision of what to have for lunch may be impacted by a dietary goal while the choice between two weekend trips might depend on a spending goal. However, individuals rarely hold, or even behave in line with, just one goal. While multiple goals can be facilitative (e.g., the goals to lose weight and improve cardiovascular health), many are inhibitory in nature (e.g., the goals to lose weight and eat our favorite foods), such that striving towards one necessitates moving away from the other.

Carver and Scheier (1998) identify two primary sources of such goal conflict. First, the incompatibility of behaviors needed to attain goals (e.g., the spending behavior required to meet a savings goal dictates movement away from the competing goal of dressing fashionably) constitutes a source of conflict within interpersonal strivings. Often such conflict is related to the distinction between what an individual wants to do and what she should do (e.g., Bazerman, Tenbrunsel, Wade-Benzoni 1998; O'Connor et al. 2002). In addition, the fundamental constraint imposed by the scarce nature of an individual's time resources can lead to goal conflict (e.g., the time needed to finish a manuscript versus the time needed to prepare dinner). In addition to recognizing the presence of goal conflict, extant literature provides solutions for dealing with conflicting pursuits, such as shielding goals to avoid potential conflict or, when conflict does arise, redefining goals, prioritizing goals to focus on those that are most important, or abandoning the pursuit of one or more conflicting goals (Dodge, Asher, and Parkhurst 1989; Klinger 1975; Shah, Friedman, and Kruglanski 2002).

The present review of goal-related literature will focus on processes of goal striving, or goal-directed behavior, and goal conflict. Further, potential remedies for dealing with goal conflict are discussed. These areas are relevant in terms of the present research question concerning the inherent tradeoffs, or goal conflicts, necessitated by time constraints. This chapter intends to review applicable conceptual and empirical studies from the interdisciplinary body of goal literature to set the stage for the goal theory framework set forth to investigate time conflicts and resulting behavior.

The structure of this chapter is based on existing goal theories, which describe processes of goal setting and follow with goal-directed effort, or goal striving (e.g., Bagozzi and Dholakia 1999). The discussion of goal setting includes the origin of such strivings as well as different types of goals that individuals pursue. Next, differences in goal-directed behavior as a function of perceived distance towards an outcome are discussed. Since goal-directed effort is continuously modified based on feedback processes indicating progress towards the reference point, movement away from the goal, or lack of effectiveness of goal-directed effort, the present research also considers in-process modifications to goal striving. Specifically, this discussion considers differences in goal representations as well as goal-directed effort when individuals generate positive and negative feedback. The process of goal setting is discussed next.

3.1 GOAL SETTING

Extant goal theories typically begin with goal setting, or the determination of which goals to pursue. Goals can be assigned by others or self-set and can arise automatically, as a result of learned responses, or as the result of conscious processes (Bagozzi and Dholakia 1999). While all goals serve as guides for behavior, individuals

do not often gear behavior towards the accomplishment of just one goal; rather, they have multiple goals which are proposed to exist in a hierarchical fashion. As such, goals exist in levels with each level representing a higher degree of abstraction. While those at the higher level represent desired end states, or why an activity is performed, those at lower levels are more likely to be associated with the activities needed to achieve those end states, or how to meet the objective (Carver and Scheier 1998; Vallacher and Wegner 1985). Along these lines, goals at higher levels are generally associated with higher levels of importance.

Further, the goals that one pursues do not necessarily remain constant over time. Klinger (1975) adopts the term "current concern" to describes one's state of mind when working towards a goal; this implies that a goal may change over time as what one is striving to accomplish is likely to vary over time (e.g., on Monday your goal is to finish your manuscript and on Tuesday you want to arrive on time to your 9:00 a.m. meeting). On the other hand, some higher order goals may be overriding objectives that drive an individual through longer periods of time, perhaps their lifetime (e.g., in all instances you try to be conscientious). These are likely to be more closely aligned with self-concept and, therefore, of higher importance. Such goals would likely be hierarchically arranged (e.g., your overriding goal is to be conscientious, therefore, your lower order goal is to be punctual and, more specifically, to arrive on time to your Tuesday meeting; see Carver and Scheier 1998 for a review of goal hierarchies).

In addition to hierarchical arrangement based on self-rated importance and length of pursuit, goals can also be differentiated based on the outcome with which they are associated. Heath, Larrick and Wu (1999) differentiate between goals associated with the

expectancy of an external, tangible reward or penalty (e.g., an individual seeks to lose five pounds in order to improve appearance for an upcoming college reunion) and "mere goals," which are not accompanied by an extrinsic reward (e.g., an individual seeks to lose five pounds). The former have been explored in terms of expectancy-value models, which measure the utility of a goal as a function of both expectations regarding the likelihood of obtaining the external reward or penalty, as well as its value (see Feather 1982 for a review).

Regardless of the type of goal, once such a reference point has been established individuals tend to strive towards its achievement. In line with expectancy value models of goal striving, one's psychological distance from the reference point, or expectation of reaching the goal, can impact the value of the goal and/or goal-directed effort. Further, feedback at various stages in the goal striving process can yield perceptions of progress or failure. Interestingly, positive and negative feedback can each help or hinder subsequent performance. The following discussion of goal striving reviews extant literature to explore the impact of psychological distance and performance feedback on the value of goal-related outcomes, as well as subsequent goal-directed effort.

3.2 GOAL STRIVING

The process of goal striving is defined as purposive action in relation to a goal (Bagozzi and Dholakia 1999). Goal striving involves the development of action plans, or implementation intentions, which describe how one intends to act in order to make progress towards their goal (e.g., when I see a tempting treat in the bakery window I will cross to the other side of the street; Gollwitzer 1996, 1999). In addition, an individual must also carry out these intentions through goal-directed effort and utilize continuous

feedback processes to arrive at revised expectations for goal achievement or goal failure. This feedback is important as it drives the continuation of effort, the revision of implementation intentions, or, in some instances, the abandonment of a goal and associated effort. Next, I review literature on processes of goal striving, or goal-directed effort, as well as the outcomes of feedback processes indicating progress, or lack thereof.

3.2.1 Goal Proximity and Goal-directed Effort

Many theories of motivation rely on the concept of goals (e.g., Locke and Latham 1990; see Pervin 1989 for a review). Classic theories of achievement motivation (e.g., Raynor 1969) posit that motivation to work towards a goal is a function of the expectancy of reaching the goal; therefore, expectancy is a key component of psychological distance to or from a desired end state. Expectancies can be driven by perceptions of goal progress as well as temporal distance from the goal (Gjesme 1981). In turn, individuals are predicted to work harder towards goal achievement when psychological distance is low. Extant literature on the goal-gradient hypothesis, the proposed value function for goal-directed effort, and temporal distance offers insight into the impact of psychological distance on goal-directed behavior, as well as the mental representation of goal-related outcomes.

3.2.1.1 The Goal-Distance Model

Hull's (1932) goal-gradient hypothesis describes the tendency for animals exert more effort as they approach a reward, or when proximity to a goal decreases. Most work on goal-gradients, however, has studied the behavior of rats or the physiological, rather than behavioral, responses of humans (Heilizer 1977; Kivetz, Urminsky, and Zheng 2006). One exception is a recent study of customer reward programs by Kivetz et al.

(2006), which provides evidence for a behavioral goal-gradient in humans. Their goal-distance model posits that goal-directed behavior is a function of psychological distance to the desired end state.

Considering participants' effort associated with café and music rating rewards programs, in which individuals obtain benefits for repeat behavior, Kivetz and colleagues observe that after accelerating towards (e.g., buying ten coffees) and achieving an initial goal (e.g., a free coffee), individuals tend to slow down their efforts (e.g., repurchase at a slower rate) towards a second incentive before subsequently accelerating once they perceive themselves to be close to the next goal (e.g., a second free coffee). In line with the goal-gradient effect, their findings illustrate that shorter psychological distance, either real or perceived, leads to increased effort. While the goal-gradient literature focuses on the motivation underlying goal-directed effort, other research takes a more cognitive approach to studying psychological distance by considering the variation in the valuation of goal-directed effort and associated outcomes as a function of goal proximity.

3.2.1.2 The Value Function Approach

Considering goals as reference points, Heath et al. (1999) explore the changing value of goal-directed behavior as a function of psychological distance to a reference point. Their myopic value model assumes that individuals look ahead one unit of effort to determine whether the marginal benefits from the additional effort exceed its marginal cost. Interestingly, they demonstrate that the value of additional goal-directed effort can change based on its relation to the goal as a reference point. More specifically, they provide evidence that goals take on properties of Prospect Theory's (Kahneman and Tversky 1979) loss function, which describes the differential perception of outcome

values (i.e., the position relative to the goal based on prior goal-directed effort) in relation to reference points. The changing value of outcomes, in turn, influences motivation and associated behavioral and affective responses.

Results from a series of scenarios, in which participants evaluate future effort and goal-related outcomes, demonstrate that goals act as reference points against which individuals code outcomes as successes or failures. Heath et al. show that these outcome assessments are characterized by loss aversion, or the tendency for losses to be weighted more heavily than similarly sized gains. Specifically, when subjects evaluated a scenario in which two hypothetical individuals set relatively lower and higher goals (i.e., to perform 30 and 40 sit-ups, respectively) they estimated that for a set level of goal progress (i.e., 34 sit-ups) the individual with the higher goal would have greater motivation to perform than the individual with the lower goal, as it had already been reached. This finding is consistent with Prospect Theory and shows that losses (i.e., the higher goal was missed by six sit-ups) are coded as a more negative than similarly sized gains (i.e., the lower goal was exceeded by six sit-ups) are coded as positive. Therefore, the motivation to perform actions consistent with a goal varies based one's exerted effort in relation to the reference point, or desired end state. In line with the marginal benefit/cost explanation, the individual with the higher goal perceives a greater benefit-to-cost ratio and is therefore more likely to exert additional effort.

Further, diminishing sensitivity predicts that outcomes have a larger effect when they are closer to the point of reference; that is, missing or exceeding a goal by a small amount corresponds to a larger negative or positive outcome than missing or exceeding the goal by a large amount. Using a similar scenario, Heath et al. asked respondents to

evaluate the degree of effort put forth by individuals with the same low and high goals (i.e., 30 and 40 sit-ups) to engage in subsequent goal-directed effort (i.e., one additional sit-up) after higher and lower levels of prior progress (i.e., after performing 42 and 28 sit-ups). Participants predicted that a greater degree of effort would be put forth from the individual with the higher goal when more progress had been made (i.e., by the individual with the goal of 40 sit-ups after 42 had been completed). In this situation, although both individuals met their goals, the fact that the individual with the higher goal is closer to her reference point explains her increased sensitivity to the benefit of additional effort. While this scenario is in line with prior literature, which suggests that more challenging goals lead to increased effort, the case in which the individual is below her desired level of performance conflicts with this general view of goal setting and striving.

In the instance where a smaller amount of progress has been realized, greater effort was predicted to come from the individual with the lower goal (i.e., the individual with the goal of 30 sit-ups after 28 had been completed), as she is closer to her reference point. In terms of the marginal benefit/cost explanation, the individual who is closer to the reference point perceives a greater benefit-to-cost ratio and is therefore more likely to continue exhibiting behavior in line with the goal. This result, while consistent with the diminishing sensitivity principle of Prospect Theory, is inconsistent with alternative theories of goal attainment which assume that an individual will work harder to attain a goal when they are further away from reaching it (e.g., Control Theory, Campion and Lord 1982). Taken together, Heath et al.'s results provide evidence that goals act as reference points and that the value of goal outcomes and associated behavior change as a

function of distance to a goal. While Heath et al.'s findings measure proximity to the goal as a function of prior progress, temporal proximity can also impact perceptions of goal distance, resulting valuation, and goal-directed effort.

3.2.1.3 Time and Psychological Distance

In addition to expectancies, the proximity in time between present and future states, or temporal distance to the goal, influences psychological distance (Gjesme 1981). In addition to the effects discussed in terms of psychological distance, temporal distance also impacts the manner in which goals are represented. These representations, in turn, can impact goal-directed behavior. Specifically, greater temporal distance tends to result in more abstract representations of goals (i.e., high-level construal); on the other hand, events closer in temporal proximity are typically described in more concrete details (i.e., low-level construal; Liberman and Trope 1998; Trope and Liberman 2000, 2003). For example, an individual scheduled to start a graduate school program in six months might think about this event in terms of the body of knowledge that she will acquire; on the other hand, an individual starting the program in six days might focus on how she will manage the workload. In turn, while decisions regarding distant future activities are heavily influenced by the desirability of the goal end state, decisions regarding proximal activities are more likely to rely on the feasibility of engaging in the behavior need to reach the desired end state (Liberman and Trope 1998).

Similarly, the present-bias effect states that when considering tradeoffs between two future moments, stronger weight is given to the nearest time (O'Donoghue and Rabin 1999). This bias results in the tendency to give more weight to cognitive goal outcomes (e.g., the long-term health benefits of dieting) when temporal distance is long and more

weight to affective outcomes (e.g., the bland taste of diet-friendly foods) when temporal distance is short (Hoch and Loewenstein 1991; Meyers-Levy and Maheswaran 1992). This results in a tendency to tend to select options with immediate costs but long-term benefits in advance, but not when consumption is imminent.

In summary, the extant literature provides evidence that psychological distance from a goal impacts goal-directed behavior as well as the value attached to goal-related outcomes and continuing effort. But goal distance is not only important immediately after a goal has been selected and the process of goal striving begins. Rather, an individual engages in processes of continuous evaluation to determine whether goal-directed efforts are reducing the distance or widening the gap between one's current state and one's desired goal state. Bagozzi and Dholakia (1999) describe the process of action control as a mid-goal striving evaluation of both effort and outcome value. Feedback from this process, in turn, impacts subsequent behavior and goal setting.

3.3 CONTROL PROCESSES AND CONTINUING EFFORT (OR LACK THEREOF)

Once an individual has initiated goal-directed behavior, control processes arise to identify how well plans have been implemented, whether they have resulted in progress towards the identified goal, and the ongoing importance of the goal (Bagozzi and Dholakia 1999). Self-regulation describes the process by which progress towards a goal is periodically interrupted so that the likelihood of successful outcome, given the current level of performance, can be assessed. Feedback from this process results in perceptions of goal progress or lack of progress (Bagozzi and Dholakia 1999). According to Carver and Scheier (1998), the monitoring process identifies discrepancies between actions already taken and those necessary for goal attainment. Discrepancies are positive when

the individual perceives herself as progressing towards the goal at a higher rate than her chosen standard, which can be formulated based on past performance or the performance of another person, for example. On the other hand, discrepancies are identified as negative when the individual perceives that she is progressing at a slower rate than the standard, or when no progress towards the goal has been made.

Positive discrepancies result in positive affect while negative affect accompanies negative discrepancies (Carver and Scheier 1998). In the case of the latter, an individual will consider either revising an action plan or perhaps abandoning the goal altogether. In the case of plan revision, an additional "meta-monitoring" loop assesses the rate of discrepancy reduction generated by the new goal-directed behavior (Carver and Scheier 1998, p. 121). This ongoing process ensures that performance and revised performance are continuously monitored. Interestingly, positive and negative discrepancies have been implicated as both drivers of and detractors from subsequent performance. Next, extant literature addressing both the positive and negative impact of performance discrepancies is discussed.

3.3.1 The Impact of Positive Discrepancies

In general, models of goal striving predict that positive discrepancies provide motivation to continue with an implementation plan as it indicates that one is on the path to goal attainment. On the other hand, Fishbach and Dhar (2005) demonstrate that the positive impact of goals is not ubiquitous. In situations where individuals have conflicting goals, their findings demonstrate that perceived progress towards a focal goal may lead to decreased activity towards that goal in favor of effort towards a conflicting end. For example, participants who perceived their progress towards an academic task

(i.e., time spent the previous day on course work) as satisfactory were more likely to demonstrate interest in non-academic tasks (e.g., spending time with friends) than individuals who were not satisfied with their previous goal-directed behavior. Goal progress, in effect, can act as an excuse for abandoning a focal goal in favor of a competing alternative. Interestingly, the ability for a discrepancy to result in either positive or negative performance is not limited to cases where perceived progress exceeds expectations.

3.3.2 The Impact of Negative Discrepancies

The extant literature investigating the effect of failure on subsequent performance is somewhat conflicting. In some instances failure has been shown to have a positive impact, resulting in an increase in motivation and effort. In general, performance is shown to increase with goal difficulty, up to the point at which the achievement of a goal is perceived to be infeasible (Carver and Scheier 1998). In other cases, however, individuals abandon their goal or exhibit decreased motivation and effort towards the desired end state when they face negative feedback. Next, I review existing literature on the impact of negative discrepancies between prior performance and one's goal state.

3.3.2.1 The Motivating Influence of Perceived Lack of Progress

A negative discrepancy between one's current state and one's desired state can work to renew effort (e.g., Carver and Scheier 1990; Locke and Latham 1990) and/or commitment (Gollwitzer 1990) towards the goal. These, in turn, lead to increased performance (see Brunstein and Gollwitzer 1996 for a review). The preceding discussion surrounding goal striving, specifically the goal-gradient hypothesis (Hull 1932; Kivetz, Urminsky, and Zheng 2006) and the value function approach to goal striving and

outcome valuation (Heath et al. 1999), provides evidence for the motivational impact of negative discrepancies, particularly when an individual is close to goal achievement.

Further, the positive impact of negative discrepancies has been shown to occur to a greater degree when goals are self-defining, compared to when goals are not highly associated with one's self-concept. Specifically, findings from Brunstein and Gollwitzer (1996) show that failure on a task (i.e., responses to medical scenarios) identified as relevant to participants' professional self-definition (i.e., aspirations to become a physician) led to enhanced performance on a subsequent task related to the same self-defining goal and impaired performance on a subsequent task considered to be irrelevant to the challenged self-definition (i.e., responses to social competence scenarios).

However, lack of progress does not necessitate increased motivation. Facing negative discrepancies, individuals do not always put forth the effort necessary to close the gap between their current state and desired end state. Rather, they may engage in effort that results in increased distance from their goal or disengage altogether from the goal and associated effort. Next, I review the literature associated with the negative impact of feedback indicating lack of goal progress.

3.3.2.2 The Negative Impact of Perceived Lack of Progress

While in some instances negative discrepancies can increase goal striving, perceived failure can also hinder subsequent performance. In line with expectancy-value models, such discrepancies undermine expectations of achieving desired outcomes and, hence, reduce resulting motivation and performance (Janoff-Bulman and Brickman 1982). In line with the reference point model, failure may change the value of the outcome and/or subsequent goal-directed effort. Further, negative discrepancies between

one's current state and a desired end state generate strong negative affect, such as regret and remorse (Heath et al. 1999). Facing negative decision outcomes, individuals often engage in efforts to reduce associated negative affect, including focusing attention on activities that generate positive emotion (Connolly, Ordóñez, and Coughlan 1997). In addition, an individual might chose to undermine subsequent performance in order to repair negative affect by disengaging from a goal. Next, negative performance in response to feedback indicating a negative discrepancy between past behavior and goal end states is discussed.

3.3.2.2.1 The "What the Hell?" Effect. Building upon the Heath et al. (1999) findings related to diminishing sensitivity towards outcomes when performance is farther from the goal, Soman and Cheema (2004) explore the effect of failure to accomplish goals on subsequent performance. Two studies, in which subjects faced either a spending budget or a task deadline, demonstrated that violation of goals resulted in poorer performance in terms of future goal-directed behavior. Specifically, the more subjects had previously overspent their budget, the greater their intent to incur additional expense. Additionally, the subjects who exceeded the task deadline by greater amounts of time demonstrated decreased accuracy in the assigned task.

This demonstration of the counterproductive impact of goals that have been violated is consistent with Polivy and Herman's (1985) "what the hell" effect, which predicts actions that further hurt performance are less significant to the individual once a goal has been violated. For example, an individual striving to lose two pounds this week who consumes a piece of chocolate cake at lunchtime, clearly a violation of goal-consistent behavior, may decide "what the hell" and continue indulging in prohibited

foods for the remainder of the day. In effect, once the goal has been violated a shift in motivation occurs and the discipline that once characterized the individual's behavior is abandoned. This effect appears to be greater for inhibitional goals compared to acquisitional goals and for proximal goals compared to distal goals (Cochran and Tesser 1996).

Explored primarily in the domain of eating behavior, researchers assume that goal violation undermines resistance to subsequent temptation or motivation (Herman and Polivy 2003; Polivy 1976). However, there is some evidence that it is not merely a motivational shift, but also changes in the value of the goal that result in the "what the hell" effect. As dieting goals tend to be short term, typically diurnal goals for the sake of simplicity in calculating progress (i.e., caloric consumption), an individual's time perspective might contribute to such seemingly irrational behavior. In the long term, one piece of chocolate cake will not impact a diet. In fact, one might still be able to meet a daily dietary goal by monitoring and restricting consumption throughout the remainder of the day. Interestingly, at least in the domain of dieting, the magnitude of the initial goal violation has less of an impact on subsequent behavior than the mere fact that one engaged in behavior inconsistent with the goal (Polivy 1976). Therefore, whether it is a piece of cake or an entire cake, an individual renders the goal (i.e., the diet) "ruined" and, therefore, subsequent inconsistent behavior does not hinder progress (Cochran and Tesser 1996). In this sense, the actual goal has lost its value and is likely to be abandoned, at least in the short term. The goal can then be reestablished in a future time period (i.e., the following day or Monday morning) when the individual faces a "clean slate" in terms of goal inconsistent behavior.

While feedback indicating lack of progress might lead to a deterioration of subsequent performance, an individual might select to abandon a goal completely. Next, literature related the process of disengaging from goals in order to avoid the negative consequences associated with the threat of failure is reviewed.

3.3.2.2.2 Goal Disengagement. Facing feedback from control processes indicating a negative discrepancy between a goal and one's present state, an individual may choose to abandon a goal, as opposed to revising action plans and exhibiting additional goal-directed effort. Goal disengagement is a two-step process; not only must the individual give up effort directed at goal attainment, but she must also abandon overall commitment towards the goal (Wrosch, Scheier, Carver, and Schulz 2003). Reducing effort while remaining committed can lead to negative affect due to the presence of the negative discrepancy and the fact that nothing is being done to minimize the distance to the goal state (e.g., an individual decides to relinquish effort towards a dietary goal by not restricting the foods that she consumes, but still wants to lose ten pounds).

Klinger (1975) suggests discrepancies resulting from feedback processes can produce effects in accordance with his proposed incentive-disengagement cycle. This framework proposes that an individual first responds to an obstacle by demonstrating increased motivation and action towards goal achievement. In line with Brehm's (1966) theory of psychological reactance, an individual may regard the incentive as more attractive than before and, presumably, the value of competing goals or incentives should grow weaker. This is generally seen as a "loss of perspective" as individuals work towards unlikely ends. Expectedly, this results in a stage of aggression or frustration. At

some point an individual will start to give up and begin to experience feelings such as apathy, reduced goal striving, and/or a loss of concentration. Klinger classifies these as symptoms of depression. Gradually, the individual downgrades the value of the lost incentive and turns her attention to other goals. Thus, disengagement frees resources for other uses, such as the pursuit of alternate goals.

Wrosch and Heckhausen (1999) explore the process of goal disengagement when goal progress is inhibited by developmental deadlines. Such tasks are normatively associated with a life cycle stage, such that the likelihood for realizing a goal is dramatically reduced beyond a certain time frame (e.g., age-graded opportunities for romantic partnerships). Wrosch and Heckhausen propose that pre-deadline (i.e., for younger individuals) there are few constraints and more opportunities compared to post-deadline (i.e., for older individuals), where major constraints are faced and fewer opportunities exist. Therefore, control processes in response to goal failure (i.e., the end of a relationship) will differ between age groups. Specifically, their findings indicate that prior to a developmental deadline, individuals with feedback indicating a negative discrepancy expressed increased commitment to the goal; on the other hand, post-deadline individuals disengaged from the goal and concentrated their resources in other social domains, effectively disengaging to focus on alternate pursuits.

Interestingly, while conventional wisdom associates perseverance with positive outcomes, evidence also implies that giving up on goals can be beneficial in terms of overall well-being. Sustaining commitment to unattainable goals (e.g., rumination and maintaining unrealistic intentions) correlates with symptoms of distress (Carver and Scheier 1998). Consistent with research on uncontrollable outcomes, which suggests that

the most adaptive response to outcomes out of one's control might be to abandon effort (Wortman and Brehm 1975), Klinger (1975) argues that that disengaging from a goal can work to reduce such negative consequences. The ability for disengagement to reduce negative affect, however, might vary based on the importance of the goal deemed unattainable. Klinger notes that greater negative reactions are likely to be seen for the loss of incentives of greater importance (e.g., deciding not to attend graduate school for an individual who aspires to become a doctor) compared to those of less importance (e.g., the same individual deciding not to attend dance lessons). In addition, goals that are not related to core values of the self are easier to disengage from (Wrosch, Scheier, Carver, and Schulz 2003).

In addition, disengagement can help a person to avoid accumulating experiences of failure and free resources so that one can work towards other goals (Nesse 2000). Wrosch, Scheier, Miller, Schulz, and Carver (2003) find that the ability to disengage from goals and reengage in other goals is positively associated with self-perceptions of well-being after enhanced psychological distress resulting from the maintenance of unattainable goals (Carver and Scheier 1990). In fact, Wrosch, Scheier, Miller, Schulz, and Carver (2003) suggest that the availability of multiple goals might facilitate the process of disengagement as an individual can pursue alternate end states as a means of avoiding the negative affect associated with goal failure. Reengagement can occur after disengagement or result from shifting attention from one goal to another, potentially conflicting goal. In other words, while persistence is often associated with success, there is indeed merit in giving up when goal-directed effort is exerted in vain.

In summary, extant literature provides evidence that negative discrepancies between a goal state and one's current state can result in increased performance (i.e., motivation) or decreased performance (i.e., the "what the hell" effect and/or disengagement). While individuals tend to place value on perseverance, extant literature indicates that giving up may, in some instances, be beneficial (e.g., Wrosch, Scheier, Miller, Schulz, and Carver 2003). This finding carries interesting implications for the study of conflicting goals that are inhibitory in nature.

3.4 CONCLUSION

In order to build a conceptual basis for exploring goal conflict in the time domain, this review of goal-related literature focused on processes of goal setting and striving in the presence of control processes. Such feedback describes an individual's proximity to a goal which, based on theories of psychological and temporal distance, impacts subsequent motivation and goal-directed behavior. These concepts and associated empirical findings are important for the proposed research question. In many instances, individuals face tradeoffs between concurrently activated goals which conflict due to the presence of temporal constraints. Building on the preceding literature reviews, my proposed framework and hypotheses for exploring time-related tradeoffs as goal conflicts are presented next.

CHAPTER 4: CONCEPTUAL MODEL AND HYPOTHESIS DEVELOPMENT

Time resources are influential in nearly all consumer decisions. Individuals utilize time to acquire goods as well as to consume them (Feldman and Hornik 1981; Jacoby, Szybillo, and Berning 1976). And while effort can be taken to increase the supply of other consumption-related resources, such as money, the nature of time makes additional reserves difficult to acquire. Since supplies are fixed (i.e., one has access to only 24 hours per day, seven days per week, etc.), are automatically used (i.e., regardless of how time is spent one's daily allotment of 24 hours continuously decreases), and are unable to be stored (i.e., one cannot save an hour of downtime early in the day to use at a later, presumably busier, point), time is considered to be a scarce resource (Gross 1987).

Further, the use of time is subject to constraints (Zeckhauser 1973). While a deadline to finish a manuscript by the end of the day results in an anticipated goal and planned usage of time resources, the time constraint which accompanies the goal might prohibit alternative, unanticipated activities (e.g., meeting a friend – who has called to say that she will be in town for the day – for lunch). Multiple pursuits therefore become inhibitory in nature, such that movement towards one goal necessarily means movement away from the other (i.e., finishing the manuscript means that you are unable to meet your friend or, alternatively, meeting your friend means that you are unable to finish the manuscript.)

Interestingly, although both time and goal literature suggest prioritizing goals and focusing effort on the highest ranked pursuit as a means of dealing with such conflict (see Denton 1994; Dodge, Asher, and Parkhurst 1989), the process by which individuals prioritize and switch between multiple goals when facing a temporal constraint has, to the

best of my knowledge, not been previously explored. Building on the perception of time as a scarce resource and borrowing from relevant goal theory, the present research explores the effort that individuals put forth towards alternative pursuits when the time constraint associated with one goal necessitates a tradeoff in terms of goal-directed behavior (i.e., the goals cannot be simultaneously pursued). In line with extant literature which shows that goals act as reference points, such that outcome values and goal-directed effort vary based on distance to the desired end state, the proposed framework (see figure 1) posits that individuals differentially value the outcome of and exhibit goal-directed behavior aimed at an anticipated goal, relative to an unanticipated goal, based on their temporal proximity to the deadline associated with the anticipated goal (i.e., they are either early or late). In effect, the deadline acts as a reference point against which progress (or lack thereof) towards the associated goal is evaluated.

More specifically, based on the well-established findings that outcome value and goal-directed behavior are higher when the distance to a goal is lower (Heath, Larrick and Wu 1999; Kivetz, Urminsky, and Zheng 2006), I propose that as pre-deadline temporal distance to a goal-related deadline moves from high to low levels (i.e., as an individual moves from "early" to "on time"), the outcome value of behavior consistent with the anticipated goal will increase relative to that of the unanticipated goal. As a result, I predict that the likelihood of engaging in behavior consistent with the unanticipated goal will decrease. In other words, I propose that the anticipated goal is assigned higher priority relative to the unanticipated goal as its associated temporal deadline draws near and, as a result, that individuals are more likely to decrease behavior aimed at alternate pursuits.

Since the proposed framework considers concurrently held goals that are inhibitory based the presence of a goal-associated temporal constraint (i.e., the individual does not have sufficient time resources to pursue both goals prior to the deadline), the present research also considers goal-directed behavior that takes place after a deadline has passed. Findings from Heath et al. (1999) provide some evidence that distance, both pre and post-goal, impacts goal outcomes in a similar fashion; that is, the closer an individual is to reference point, whether prior to or after the goal, the greater the valuation of a goal-related outcome and degree of goal-directed behavior. While some goal research suggests that missing a deadline would result in a renewal of commitment and/or effort, in turn leading to increased performance (see Brunstein and Gollwitzer 1996 for a review), the Heath et al. findings are consistent with a separate stream of research suggesting that subsequent performance is negatively impacted by a perceived lack of progress towards a goal (Janoff-Bulman and Brickman 1982).

Polivy and Herman's (1985) "what the hell effect" describes such a tendency, specifically predicting that actions that further hurt performance are more likely to occur after exposure to evidence indicating a lack of progress towards a goal (e.g., a dieter indulges in a cookie and, clearly in violation of the dietary goal, subsequently decides "what the hell, I'll eat three more"). This effect is proposed to result from a decrease in expectations regarding goal achievement (Herman and Polivy 2003), as well as changes in the outcome value of goal-consistent behavior (Polivy 1976). Based on this research, I propose that as post-deadline temporal distance from a goal-related deadline moves from low to high levels (i.e., as an individual moves from "on time" to "late"), the outcome value of behavior consistent with the anticipated goal will decrease and, correspondingly,

the likelihood for engaging in behavior consistent with the unanticipated goal will increase. In other words, I propose that the unanticipated goal is assigned higher priority relative to the anticipated goal and, therefore, individuals are likely to switch goal-directed behavior in favor of alternate pursuits when moving away from the deadline.

To provide support for the proposed framework, extant goal theory that considers variation in outcome values, as well as goal-directed behavior based on proximity to a reference point, is discussed. I review literature that considers movement towards a reference point and discuss feedback processes which indicate movement away from goals (i.e., initial goal failure) to provide support for the goal switching behavior hypothesized to occur once a goal-related deadline has been exceeded. Further, external factors, specifically the consequences associated with missing a deadline and the parties implicated by the deadline, as well as internal factors, namely the importance of the deadline and time-related individual differences, are discussed as potential moderators of the proposed effect of temporal distance. Next, literature which considers goals as reference points for behavior is reviewed.

4.1 GOALS AS BEHAVIORAL REFERENCE POINTS

Goals serve as standards of behavior and, as such, benchmarks by which individuals classify outcomes as successes or failures (Carver and Scheier 1998). Further, an individual's psychological distance from a goal, which is driven by perceptions of progress (i.e., prior goal-directed behavior) as well as temporal distance from the desired end state, is shown to impact goal-related perceptions and behaviors (Gjesme 1981). As the proposed framework considers goal switching behavior both before and after a

temporal deadline, both pre-deadline and post-deadline behavior are considered. Situations where individuals are approaching their goal state are discussed next.

4.1.1 Movement Towards the Reference Point

The process of goal striving is defined as purposive action in relation to a goal (Bagozzi and Dholakia 1999). In turn, control processes arise to identify how well plans have been implemented, whether they have resulted in progress towards the identified goal, as well as the ongoing importance of the goal. Such feedback results in perceptions of goal progress or lack of progress, defined as discrepancies between actions already taken and those necessary for goal attainment (Bagozzi and Dholakia 1999; Carver and Scheier 1998). Discrepancies are positive when the individual perceives herself as progressing to the goal at a higher rate than her chosen standard, which can be formulated based on past performance or the performance of another person, for example.

In general, models of goal striving predict that positive feedback results in positive affect and provides motivation to continue with an implementation plan as it indicates that one is on the path to goal attainment (see Fishbach and Dhar 2005 for an alternative view demonstrating the negative impact of positive feedback). This stream of research is consistent with extant research demonstrating increased goal-directed behavior as proximity to a reference point increases.

4.1.1.1 Goal-gradients and the Goal-Distance Model

Building on Hull's (1932) goal-gradient hypothesis, which describes the tendency for animals exert more effort as they approach a reward (i.e., when distance to a goal-related incentive decreases), Kivetz et al. (2006) provide evidence for a behavioral goal-gradient in humans. Considering participants' behavior associated with café and music

rating rewards programs, in which individuals obtain benefits for repeat behavior, Kivetz et al. observe that after accelerating towards (e.g., buying ten coffees) and achieving an initial goal (e.g., a free coffee), individuals slow down their efforts (e.g., repurchase at a slower rate) towards a second incentive before subsequently accelerating once they perceive themselves as closer to the next goal (e.g., a second free coffee). Their findings illustrate that shorter psychological distance leads to increased goal-directed effort. While the goal-gradient literature takes a motivational approach towards explaining this increase in effort, other research takes a more cognitive perspective by considering the variation in the valuation of goal-related outcomes based on proximity to the reference point.

4.1.1.2 The Value Function Approach

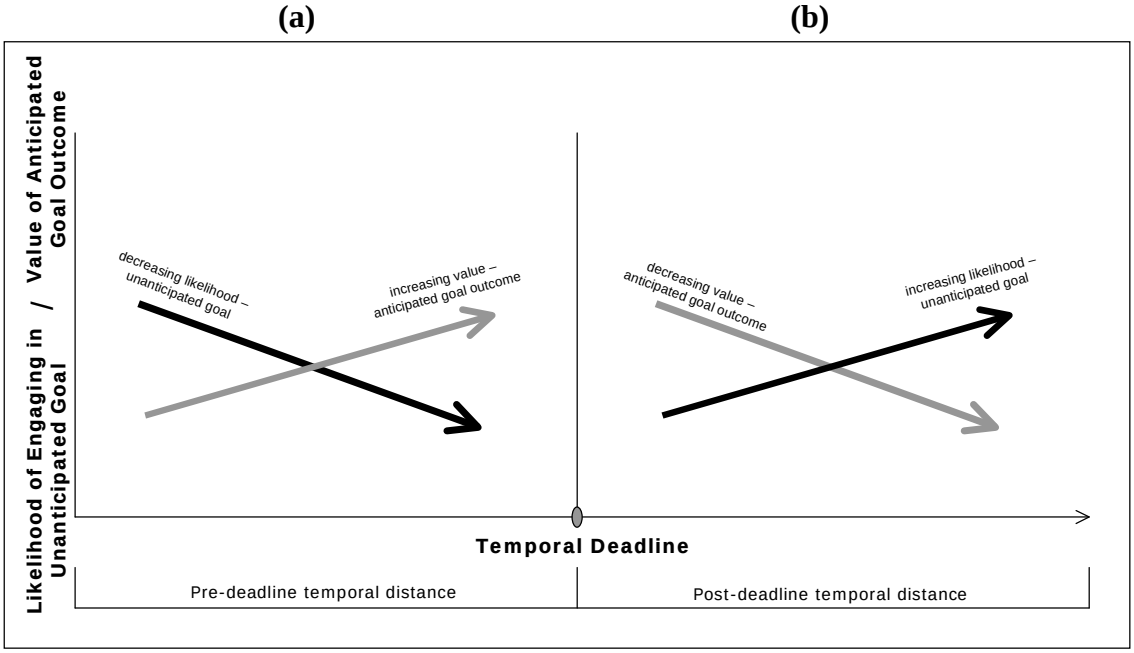
Along similar lines, Heath et al. (1999) demonstrate that goals inherit properties of Prospect Theory's value function (Kahneman and Tversky 1979; Tversky and Kahneman 1992), such that outcome values are altered by the presence of and distance to a reference point (i.e., the goal). The changing value of outcomes, in turn, influences motivation and associated behavioral and affective responses. In line with the goal-gradient hypothesis, which predicts that goal-directed behavior increases as distance to the reference point decreases, the diminishing sensitivity which characterizes the value function predicts that goal-related outcomes are considered to be more significant when an individual is closer to the point of reference; that is, missing or exceeding a goal by a small amount corresponds to a larger negative or positive response than missing or exceeding the goal by a large amount.

Using a series of hypothetical scenarios, Heath et al. asked study participants to predict the likelihood of individuals with relatively higher and lower goals (i.e., 40 and

30 sit-ups) to engage in subsequent goal-directed effort (i.e., one additional sit-up) after higher and lower levels of prior progress (i.e., after performing 42 and 28 sit-ups). At higher levels of progress, participants predicted that a greater degree of effort would be put forth by the individual with the higher goal (i.e., by the individual with the goal of 40 sit-ups after 42 had been completed), compared to the individual with the lower goal. Although both individuals met their goals in this situation, the fact that the individual with the higher goal is closer to her reference point explains her increased sensitivity to the benefit of additional effort. On the other hand, at lower levels of progress greater effort was predicted to come from the individual with the lower goal (i.e., the individual with the goal of 30 sit-ups after 28 had been completed), compared to the individual with the higher goal, as she is closer to the reference point for behavior.

Taken together, the goal-distance model and the properties of the value function predict that goal-related outcome value will increase and individuals will work harder to achieve goals when they are closer to behavioral reference points. Along these lines, I propose that the likelihood of engaging in an unanticipated goal will decrease as individuals approach a temporal deadline associated with an anticipated goal, for which associated outcome value will increase (see figure 2: panel a, lines 1 and 2).

FIGURE 2: PROPOSED EFFECTS OF TEMPORAL DISTANCE



In this situation, feedback processes indicate a positive discrepancy with regard to the temporal constraint (i.e., the individual is early), such that goal-directed behavior can result in meeting the deadline. Individuals have planned use of their time resources in line with the anticipated goal and its associated deadline and, in addition, they are likely to assign higher outcome value to this pursuit relative to alternative, unanticipated goals. Therefore, rather than engaging in behavior associated with an alternative goal, an individual will be more likely to engage in behavior associated with the anticipated goal. In other words, pre-deadline (i.e., an individual is early) the value of an anticipated goal outcome will increase relative to that of an unanticipated goal outcome. Therefore, the likelihood of engaging in an unanticipated goal will decline as pre-deadline temporal distance to the deadline declines (i.e., the individual approaches the point of being on time). I propose,

H1a: Pre-deadline, an anticipated goal will be assigned priority relative to an unanticipated goal.

and

H2a: Pre-deadline, the likelihood of engaging in an unanticipated goal, relative to an anticipated goal, will decrease as the individual approaches the deadline.

4.1.2 Movement Away from the Reference Point

On the other hand, discrepancies are classified as negative when the individual perceives that she is progressing at a lower rate than the standard, or when no progress towards the goal has been made. Since the proposed framework considers concurrently held goals that are inhibitory based on deadline-induced time scarcity, selecting one goal to direct effort towards prior to the deadline implies that behavior associated with the alternative goal will occur after its achievement. Therefore, while the prior predictions consider the situation in which individuals are approaching their temporal deadline, the present research also considers goal-directed behavior that takes place after the deadline has passed.

While extant goal-gradient literature has not considered such situations, participants from the previously cited Heath et al. study predicted that higher effort would be exhibited by individuals in proximity to their goal, regardless of the valence of psychological distance. In other words, it is the absolute distance (i.e., an individual who has exceeded their goal by 4 sit-ups is in closer proximity than an individual who has exceeded their goal by 12 sit-ups) rather than whether the individual has exceeded or fallen short of the reference point (i.e., an individual who is 4 sit-ups short of their goal is in the same proximity as an individual who has exceeded their goal by 4 sit-ups) that impacts outcome valuation. However, the question remains as to what happens to goal-

directed effort as individuals continue to move farther from their reference point (i.e., as post-deadline temporal distance increases).

Post-deadline temporal distance implies a lack of progress towards the anticipated goal. Along these lines, extant literature which considers continued goal-directed behavior and outcome value after feedback indicating a likelihood of goal failure is relevant to such situations. While some research suggests a renewal of commitment, effort, and, in turn, increased performance in the face of negative feedback (see Brunstein and Gollwitzer 1996 for a review), the Heath et al. findings with regard to reference point proximity are consistent with a separate stream of research, which shows that such perceptions can undermine subsequent performance and outcome value (Janoff-Bulman and Brickman 1982). In line with the reference point model, failure may change the value of the outcome, itself, as well as the likelihood of continued goal-directed effort.

4.1.2.1 The "What the Hell?" Effect

Building upon the Heath et al. (1999) findings related to diminishing sensitivity towards goal-related outcomes, Soman and Cheema (2004) explore the effect of failure to accomplish goals on subsequent performance. Two studies, in which subjects faced either a spending budget or a self-set task completion deadline, demonstrated that the violation of goals resulted in poorer performance in terms of future goal-directed behavior. Specifically, the more participants had previously overspent their budget, the greater their intent to incur additional expense. Additionally, those who set deadlines but failed to achieve them took longer to finish than individuals with no self-imposed completion goal.

This demonstration of the counterproductive impact of goals is consistent with Polivy and Herman's (1985) "what the hell" effect, which predicts that once a goal has been violated, actions that further hurt performance are less significant and are therefore more likely to occur. Explored primarily with regard to dieting goals, the what the hell effect predicts, for example, that an individual striving to lose two pounds this week who consumes a piece of chocolate cake at lunchtime, clearly a violation of goal-consistent behavior, may decide, "what the hell," and continue to indulge in other forbidden foods for the remainder of the day.

Researchers assume that the initial goal violation undermines motivation and changes in the value of the goal-related outcome (Herman and Polivy 2003; Polivy 1976). As dieting goals tend to be short term, typically diurnal goals for the sake of simplicity in calculating progress (i.e., caloric consumption), an individual's time perspective for the goal may contribute to such irrational behavior. After an eating violation, one might still be able to meet a daily dietary goal by monitoring and restricting consumption throughout the remainder of the day. Interestingly, at least in the domain of dieting, the magnitude of the initial goal violation has less of an impact on subsequent behavior than the mere fact that one engaged in behavior inconsistent with a goal (Polivy 1976). Therefore, whether it is a piece of cake or an entire cake, an individual renders the goal (i.e., the diet) "ruined," and devalues subsequent goal-directed behavior (Cochran and Tesser 1996).

Based on the value function approach to goal outcome value and the what the hell effect, which predict that individuals devalue goal-related outcomes and decrease goal-consistent behavior when they are farther from their reference point for behavior, I

propose that switching behavior will increase as individuals move away from a temporal deadline as the value of the anticipated goal will decrease (see figure 2: panel b, lines 3 and 4). An individual will be more likely to focus on the unanticipated alternative when they face negative feedback as a result of missing the deadline associated with the anticipated goal. In other words, when an individual is late the value of an anticipated goal outcome will decrease relative to that of an unanticipated goal outcome. Therefore, the likelihood of engaging in an unanticipated goal will increase as post-deadline temporal distance from the deadline increases (i.e., the individual becomes even later). I propose,

> ***H1b: Post-deadline, an unanticipated goal will be assigned priority relative to an anticipated goal.***

and

> ***H2b: Post-deadline, the likelihood of engaging in an unanticipated goal, relative to an anticipated goal, will increase as the individual moves away from the deadline.***

Further, negative discrepancies between current and desired end states can generate strong negative affect, such as regret and remorse (Carver and Scheier 1998; Heath et al. 1999). Facing negative outcomes, individuals often engage in efforts to reduce associated negative affect, including focusing attention on activities that generate positive emotion (Connolly, Ordóñez, and Coughlan 1997). Extant literature on processes of goal disengagement, or the abandonment of goals which are deemed infeasible, suggests engagement in alternative goals as a means avoiding the negative affect associated with in inability to accomplish a goal (Wrosch, Scheier, Miller, Schulz, and

Carver 2003). Engaging in the unanticipated goal post-deadline is likely to serve such a purpose. Therefore, I propose

> ***H3: Post-deadline, individuals with higher likelihood of engaging in an unanticipated goal will report lower levels of negative affect than those with a lower likelihood of engaging in an unanticipated goal.***

4.2 THE EXTERNAL CONTEXT OF TEMORALLY BASED SWITCHING

In investigating the process of prioritizing multiple goals that conflict due to time constraints, the proposed framework considers external factors related to goals as well characteristics of time resources that are likely to impact the switching behavior proposed in H1 and H2. The consequences for and parties implicated by missing temporal deadlines are discussed next.

4.2.1 The Impact of Consequences

Extant goal literature tends to focus on behavior directed towards mere goals, for which no external reward or penalty is specified for goal success or failure (Soman and Cheema 2004). Heath et al. (1999) suggest that the impact of external rewards alters the value of outcomes above and beyond the influence of the value function. In effect, the reward increases the value of the outcome as individuals are not merely striving towards the reference point, but rather working to obtain the reward. Along similar lines, I propose that high perceived consequences for missing a temporal deadline (i.e., the presence of a penalty for being late) will increase the value of the anticipated goal outcome both prior to and after a temporal deadline. As a result, goal-directed effort will be less subject to processes of prioritization and switching. Therefore, I posit that the effect predicted in H1a will be accentuated and the effect predicted in H1b will be

attenuated in the presence of high consequences for missing a temporal deadline, such that individuals will exhibit decreased goal-directed effort towards the unanticipated goal in favor of the anticipated pursuit. I propose

> ***H4: Regardless of temporal distance, the likelihood of engaging in an unanticipated goal, relative to an anticipated goal, will further decrease when the consequences for missing the temporal deadline are higher.***

4.2.2 The Impact of Social Obligations

In addition to aspects of the goal, external factors related to time resources might also impact switching between anticipated and unanticipated goals. In their investigation of the social structure of different types of time, Lewis and Weigert (1981) describe the embedded nature of self and interaction time, such that conflict arises when a personal pursuit or obligation (e.g., completing the Sunday crossword puzzle) competes with a goal that is social in nature (e.g., meeting friends for brunch). As such, personal time allocation decisions are likely to impact those that are more interpersonal in nature, and vice versa.

Hirschman (1987) suggests that the choice to engage in one activity over another depends on the degree of obligation felt towards the parties impacted by the decision. Along these lines, implicating others in failure to meet a temporal deadline (e.g., choosing the crossword over brunch) is likely to increase the degree of social obligation inherent in the competing goal. Therefore, the effect predicted in H1a will likely be accentuated and the effect predicted in H1b attenuated when others (as opposed to merely the self) are implicated by failure to meet a goal-related temporal deadline; in turn,

individuals will exhibit decreased goal-directed effort towards the unanticipated goal in favor of the anticipated pursuit. I propose

> ***H5: Regardless of temporal distance, the likelihood of engaging in an unanticipated goal, relative to an anticipated goal, will further decrease when missing the temporal deadline implicates others, as opposed to only the self.***

4.3 THE INTERNAL CONTEXT OF TEMPORALLY BASED SWITCHING

In addition to external factors, the proposed framework considers internal factors related to goals and time. Specifically, I consider the impact of deadline importance and time-related individual differences as potential moderators of the temporally based switching behavior proposed in H1 and H2.

4.3.1 The Impact of Deadline Importance

While the present study posits that tradeoff behavior varies based on proximity to a temporal deadline, the importance of the anticipated goal and its associated deadline might impact the process of prioritizing multiple, conflicting goals. Specifically, extant literature investigating the tendency to be punctual with regard to different types of appointments suggests that individuals are more likely to be late for appointments that they consider to be of lesser importance (James and Fleck 1986). In addition, the impact of constraints, or deadlines, is likely to vary based on the degree of discretion associated with allocating different types of time; for example, a time constraint associated with a work-related goal (e.g., an impending manuscript deadline) might take precedence over a more leisure-oriented pursuit (e.g., a desire to see the latest new release; Feldman and Hornik 1981; Hornik 1982). This finding is consistent with goal shielding research, which indicates that the ability maintain focus with regard to a focal goal in the presence

of distracting goals is a function of goal commitment. Goals associated with obligations or duties are typically less susceptible to the interference of conflicting goals (Shah, Friedman, and Kruglanski 2002). Therefore, it is predicted that the effect posited in H1a will be accentuated and the effect predicted in H1b will be attenuated when an anticipated goal is of higher importance. Individuals are therefore less likely to switch their behavior towards a conflicting alternative. I propose

H6: Regardless of temporal distance, the likelihood of engaging in an unanticipated goal, relative to an anticipated goal, will further decrease when the anticipated goal is higher in importance.

4.3.2 The Impact of Individual Differences

In addition to attributes of the deadline, individual characteristics are also likely to impact switching behavior when conflict between anticipated and unanticipated goals arises due to a temporal constraint. An individual's time style refers to her consistent pattern with regard to time usage, and can be defined based on a number of specific dimensions. For instance, Francis-Smythe and Robertson's (1999) Time Personality Indicator measures leisure time awareness, punctuality, planning, polychronicity, and impatience. As the present study considers goal-directed behavior both before and after a deadline has passed, an individual's time style with regard to punctuality, or attitude towards being "on time", may moderate the effects predicted in H1 and H2.

In their investigation of goal disengagement, or the complete abandonment of goals and associated goal-directed behavior when achievement is deemed unattainable, Wrosch, Scheier, Carver, and Schulz (2003) show that individuals are more likely to disengage from goals that are less associated with core values of the self. Based on this finding, I propose that individuals who place a high value on punctuality, and/or exhibit a

highly punctual time style, will be less likely to exhibit switching behavior; rather, they will demonstrate increased behavior towards the anticipated goal for which a deadline is present.

H7: Regardless of temporal distance, the likelihood of engaging in an unanticipated goal, relative to an anticipated goal with an associated deadline, will further decrease for individuals with a punctual time style.

4.4. PROPOSED METHODOLOGY

To provide support for the proposed conceptual framework and hypotheses, three empirical studies were conducted. The first study documents the proposed effect of temporal distance specified in H2 and evaluates the moderating effects specified in H4 through H7. The second study explores the impact of temporal distance on goal-related outcome value, as specified in H1 and, in turn, the process by which this value impacts subsequent goal-directed behavior. In addition, the process of affect regulation postulated in H3 is tested. Finally, study 3 provides additional support for the process underlying the observed effects by evaluating goal switching behavior when different quantifiable values are assigned to an unanticipated goal.

Based on prior studies involving time and decision making, I adopt a behavioral decision research approach using hypothetical scenarios of situations that participants might encounter in daily life (LeClerc, Schmitt, and Dubé 1995). All studies utilize scenarios that ask respondents to indicate their likelihood of engaging in behavior associated with an unanticipated goal in the presence of an anticipated goal with an associated temporal deadline under different conditions. Variations in temporal distance, as well as potential moderating factors, are either measured or manipulated.

CHAPTER 5: STUDY 1

The primary objective of study 1 was to provide support for H2 by demonstrating the effect of temporal distance to/from a deadline on the likelihood of engaging in anticipated versus unanticipated goals. The role of moderating factors, as specified in H4 through H7, was also explored. Based on prior research involving time and decision making, a behavioral decision research approach was adopted, which used hypothetical scenarios of deadline-constrained situations (LeClerc, Schmitt, and Dubé 1995).

5.1 METHOD

5.1.1 Participants

Two hundred and forty-three undergraduate students (125 female, 115 male, and three who did not provide gender information) participated in the study in partial fulfillment of course requirements. The average age of the participants was 23.63, ranging from 19 to 59 years.

5.1.2 Design

Participants were provided with a questionnaire consisting of two scenarios. For each scenario, a series of questions assessed behavior at various points in relation to a temporal deadline (see appendix A). The anticipated goal associated with the first scenario was arrival at a scheduled class while the second scenario assessed behavior in relation to the goal of arriving at a doctor's appointment. The relative importance of the conflicting goals, consequences associated with missing the deadline, and parties implicated by missing the deadline were manipulated between subjects.

5.1.2.1 Scenario Development Pretests

Pretests were conducted to select the scenario elements to utilize as study manipulations. Scenarios and manipulations were pretested with respondents taken from the same population as the main study.

5.1.2.1.1 Relative Importance Pretest. The first pretest was conducted in order to select anticipated and unanticipated goals that varied in terms of their relative importance (Importance). Respondents (N = 40) were presented with a series of goals (e.g., "getting to class on time," "arriving at work on time," etc.) and asked to rate each in terms of their importance on a 5-point scale (1 = "not at all important", 5 = "very important"). The results, shown in table 1, indicate that purchasing coffee is perceived to be of lower importance and dropping off a class assignment is perceived to be of higher importance compared to the anticipated goal of arriving to class. Thus, the manipulation of Importance for scenario 1 varied between subjects based on whether respondents were presented with a tradeoff between class arrival and the purchase of coffee (higher relative importance of anticipated goal) or a tradeoff between class arrival and dropping off a class assignment (lower relative importance of anticipated goal).

Likewise, as shown in table 1, taking a phone call from a friend is perceived to be of lower importance while taking a phone call from one's boss is perceived to be of equal importance relative to the anticipated goal of arriving to a scheduled doctor appointment. Along these lines, the manipulation of Importance for scenario 2 varied between subjects based on whether respondents were presented with a tradeoff between appointment arrival and taking a phone call from a friend (higher relative importance of anticipated

goal) or a tradeoff between appointment arrival and taking a phone call from one's boss (equal importance of goals).

TABLE 1: PRETEST RESULTS - RELATIVE IMPORTANCE OF ANTICIPATED GOAL

Scenario Number	**Anticipated Goal** (importance rating)	**Unanticipated Goal** (importance rating)	***t*(39)**	***p*-value**
1	Scheduled class* ($M = 4.30$, $SD = 0.85$)	Coffee ($M = 3.63$, $SD = 0.81$)	4.18	.00
	Scheduled class ($M = 4.30$, $SD = 0.85$)	Class assignment* ($M = 4.68$, $SD = 0.62$)	-2.73	.01
2	Scheduled appointment – doctor* ($M = 4.22$, $SD = 1.05$)	Call from friend ($M = 3.78$, $SD = 0.73$)	2.57	.01
	Scheduled appointment – doctor ($M = 4.22$, $SD = 1.05$)	Call from boss ($M = 4.25$, $SD = 1.01$)	-0.14	.89

* denotes goal rated higher in importance based on pretest results

5.1.2.1.2 Consequence Pretest. Next, a separate pretest was conducted to assess perceptions of consequences associated with the anticipated goal in order to design an appropriate manipulation of this factor. Scenarios incorporating the selected anticipated goals (i.e., class and appointment arrival), as well as several other goals that served as filler items, were modified to include either high or low consequences. This factor was manipulated between subjects, such that participants saw the focal items with either high or low consequences. Participants in the high consequence condition were told that the penalty associated with arriving late to class was being "marked down late on the class record" and that arriving late to the appointment meant that the doctor "takes the next appointment and yours is pushed back to a later time." For both scenarios, individuals in the low consequence condition were told that there was "no penalty for late arrival."

Since each participant rated multiple scenarios, the order of presentation of the focal items was counterbalanced. Participants (N = 42) were asked to rate the consequences associated with each scenario on a five point scale (1 = "very low consequences", 5 = "very high consequences"). A 2 (Order: Scenario 1 First vs. Scenario

2 First) x 2 (Consequence: High vs. Low) ANOVA was conducted to evaluate both the effects of order and the manipulation of consequences. In both scenarios, participants in the high Consequence condition perceived the consequences associated with missing the deadline for the anticipated goal to be higher than those who viewed scenarios with lower consequences (see table 2). There was no effect of order for either scenario.

TABLE 2: PRETEST RESULTS – PERCEIVED CONSEQUENCES ASSOCIATED WITH ANTICIPATED GOAL

Scenario Number	**Anticipated Goal**	**Consequence for Missing Temporal Deadline** (consequence level)	***F***	***p*-value**
1	Scheduled class	**High Consequence:** Marked late on class record (M = 4.00, SD = 1.17)	$F(1,36) = 5.17$	.03
		Low Consequence: No penalty (M = 3.10, SD = 1.33)		
2	Scheduled appointment	**High Consequence:** Appointment pushed back (M = 3.73, SD = 0.83)	$F(1,38) = 4.65$	.04
		Low Consequence: No penalty (M = 3.15, SD = 0.86)		

Based on these results, the manipulation of consequences associated with the anticipated goal for scenario 1 varied between subjects based on whether respondents were told that late class arrival resulted in being marked down late on the class record (high consequence) or that no penalty was assessed (low consequence). For scenario 2, the consequences differed based on whether participants were told that late appointment arrival resulted in their appointment being pushed back to a later time (high consequence) or that no penalty was associated with late arrival (low consequence).

5.1.2.1.3 Parties Impacted Pretest. To design an appropriate manipulation of the parties impacted by failing to meet the deadline associated with the anticipated goal

(Parties Impacted) a final pretest was conducted. Similar to the prior pretest, scenarios using the goals selected (i.e., class and appointment arrival), as well as several other goals which served as filler items, were modified such that missing the deadline implicated either others or merely the self. Participants in the others condition were told in the class arrival scenario that, "your team members are waiting for you to work on your project during the scheduled class" and in the appointment arrival scenario that, "you are the first appointment of the day and the doctor is in his office waiting for you to arrive." This information was not provided in the self condition. Pretest scenarios were presented within subjects, with the order of presentation for scenarios 1 and 2 counterbalanced. Parties Impacted was presented between subjects. Respondents (N = 61) were presented with the scenarios and asked to rate the extent to which people other than themselves would be negatively impacted in each scenario on a five point scale (1 = "others not at all impacted", 5 = "others strongly impacted").

A 2 (Order: Scenario 1 First vs. Scenario 2 First) x 2 (Parties Impacted: Self vs. Others) ANOVA was conducted to evaluate both the effects of order and the manipulation of parties impacted. Results, shown in table 3, indicate that participants in the others condition considered the act of missing the deadline as having implications for others, rather than merely the self. There was no effect of order for either scenario.

TABLE 3: PRETEST RESULTS – PARTIES IMPACTED BY FAILING TO MEET ANTICIPATED GOAL

Scenario Number	Anticipated Goal	Others Impacted: (impact level)	*F*	*p*-value
1	Scheduled class	**Others Impacted:** Group members waiting (M = 4.20, SD = 1.30)	$F(1,57) = 22.77$	.00
		Others Not Impacted: No impact on others (M = 2.71, SD = 1.10)		
2	Scheduled appointment	**Others Impacted:** Doctor waiting (M = 3.73, SD = 1.23)	$F(1,57) = 5.90$	.02
		Others Not Impacted: No impact on others (M = 3.00, SD = 1.10)		

Based on these results, the manipulation of Parties Impacted by failing to meet the anticipated goal for scenario 1 varied between subjects based on whether respondents were told that the class period was intended for group work, and that team members were waiting for them to arrive (others impacted), or not (others not impacted). For scenario 2, Parties Impacted varied based on whether participants were told that their appointment was the first of the day and that they were keeping the doctor waiting (others impacted) or not (others not impacted).

5.1.3 Procedure

After reading the description for each scenario, participants were asked to report their likelihood of engaging in the unanticipated goal (i.e., purchasing coffee, turning in a class assignment, or taking a phone call) at a series of times prior to and after the deadline by circling the appropriate response on a seven-point scale (1 = "would definitely not" engage in alternative goal, 7 = "would definitely" engage in alternative goal). Respondents indicated their behavioral likelihood at a total of forty-one different points

in time, ranging from twenty minutes early to twenty minutes late (see appendix A). Next, they responded to a question assessing their perception of lateness in the scenario by circling the number corresponding to the point at which they would consider themselves to be late on the dependant measure scale, ranging from twenty minutes early to twenty minutes late (see appendix A). The point at which individuals would abandon, or disengage from, the pursuit of the anticipated goal was assessed using responses to the question, "Is there a time beyond which you would decide that it is too late to attend class [the appointment] and you would simply not go?" Responses were elicited using an open-ended measure, which asked participants to "please write down how many minutes late that would be _____." This item helped to ensure that the results are driven by processes of goal prioritization, rather than permanent disengagement from the anticipated goal.

Following approximately 20 minutes of unrelated intervening material, participants provided responses to a series of items assessing the importance of punctuality (Punctuality: *Cronbach's alpha* = 0.77), tendency to be late (Lateness: *Cronbach's alpha* = 0.69), perceived busyness (Busyness: *Cronbach's alpha* = 0.69), and importance of their own schedule and commitments relative to others (Own Commitments: *Cronbach's alpha* = 0.79; see appendix B). Responses were elicited on 5-point scales (1 = "not at all", 7 = "very much"). These items were based on related measures of time-related individual differences, including Francis-Smythe and Robertson's (1999) Time Personality Indicator and the 22 items loaded on four factors

corresponding to the measures[1]. Demographic information assessing age (Age), number of years lived in the United States (US Years), gender (Gender), student status (Student), employment (Employment), and ethnicity (Ethnicity) was also collected.

5.2 ANALYSIS AND RESULTS

Prior to testing the hypotheses, several analyses were conducted to ensure that respondents perceived the scenarios as intended. First, perceptions of lateness in each scenario were assessed to ensure that individuals considered themselves to be late once the deadline had passed. Responses indicated that participants perceived themselves to be late at a point occurring after the deadline in scenario 1 [M = 6.45, SD = 5.57 vs. 0 minutes after the deadline; $t(194) = 16.12$, $p < .001$] and scenario 2 [M = 6.62, SD = 5.71 vs. 0 minutes after the deadline; $t(193) = 16.14$, $p < .001$]. Further, the time at which individuals intended to abandon the anticipated goal was assessed to ensure that participants perceived the scenarios as opportunities for goal prioritization, rather than disengagement from one goal for the sake of accomplishing the other. For those individuals who indicated that there was a point at which they would be likely to disengage from pursuit of the anticipated goal, this behavior occurred at a point beyond the 20 minutes post-deadline for which behavioral likelihood was measured for scenario 1 [M = 32.21, SD = 14.62 vs. 20 minutes after deadline; $t(213) = 12.22$, $p < .001$] and scenario 2 [M = 35.35, SD = 23.32 vs. 20 minutes after deadline; $t(191) = 9.12$, $p < .001$].

Discriminant analysis (DA) was used to investigate the differences in participants' behavior when facing conflicting goals. The objective of DA, in general, is to compute

[1] While a group of participants (N = 116) responded to these items in addition to the Time Personality Indicator (Francis-Smythe and Robertson 1999), analyses revealed a 16, rather than the expected 5 factor solution. Further, analyses revealed low reliability of the measures (e.g., Cronbach's alpha = -.02 for the items assessing Punctuality). Therefore, these items were dropped from subsequent data collection and analyses.

one or more discriminant functions, or linear combinations of the predictor variables, that distinguish between groups defined by categorical variables. As specified by Hair et al. (1998), discriminant functions take the form of the linear equation specified in equation 1.

$$z_{jk} = a + w_1 x_{1k} + w_2 x_{2k} + \ldots + w_n x_{nk} \quad (1)$$

where:

z_{jk} = score of discriminant function j for observation k
a = intercept
w_i = discriminant weight for predictor variable i
x_{ik} = measure of variable i for observation k.

Discriminant function scores (i.e., z) are then compared to assess differences between groups. In order to carry out this analysis, participants were first assigned to a group based on their response patterns with regard to the scenarios. To adhere to the assumption of independence of observations, separate group assignment and DA were conducted for each scenario (Hair et al. 1998).

5.2.1 Group Assignment

A behavioral likelihood function was estimated for each individual using equation 2. Estimation resulted in functions that describe the likelihood of purchasing the coffee or turning in a class assignment for scenario 1 and functions that represent the probability of taking a phone call from a friend or boss for scenario 2. Equation 2 represents the cumulative distribution function, or probability of engaging in the unanticipated goal relative to the anticipated goal, represented by x (Burr 1967).

$$G(x) = 1 - (1 + (a + bx)^c)^{-k} . \quad (2)$$

Along these lines, behavioral likelihood data for each individual at the 41 different points in time was transformed from the 7-point scale upon which data was collected to a 0 or 1 probability scale, corresponding to x in equation 2. Responses ranging from 1 to 4 corresponded to 0, or a decision not to engage in the unanticipated goal, while responses ranging from 5 to 7 were transformed to 1, or a decision to engage in the unanticipated goal. For each scenario, parameter estimates for a, b, and c were generated for each individual in accordance equation 3.

$$x = a - (bt + ct^2) \tag{3}$$

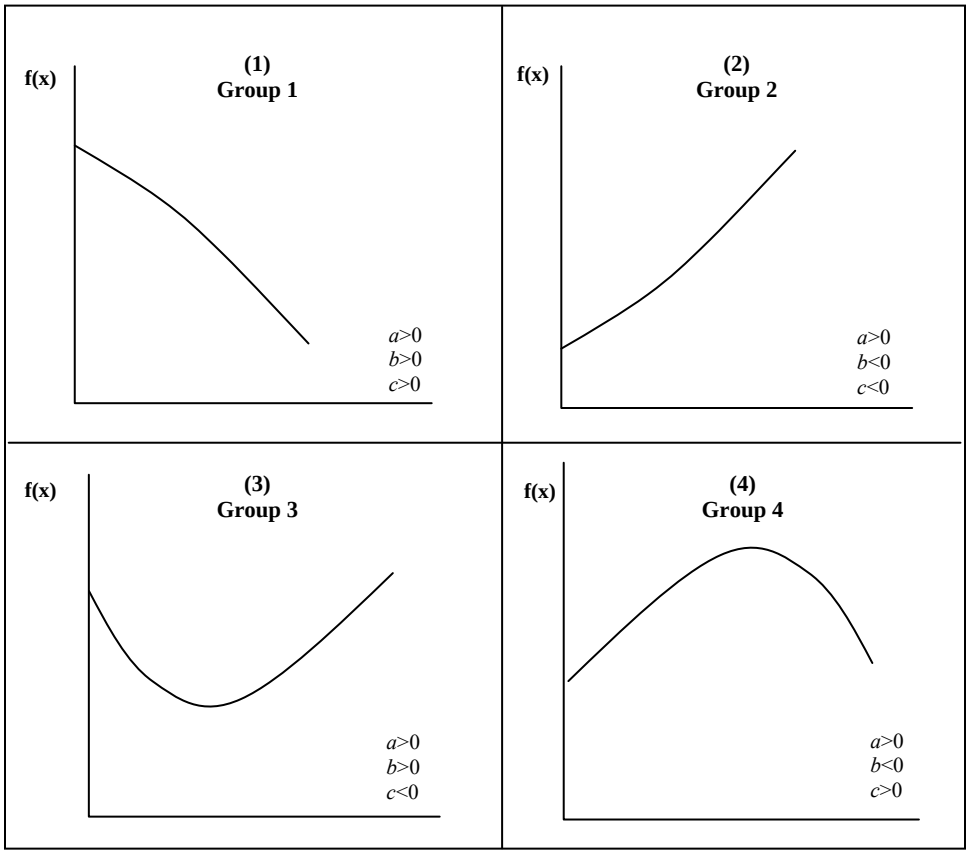
where:

x = likelihood of engaging in unanticipated goal [0,1]
t = time
a, b, c = parameter estimates.

Initial values for a, b, and c were set at 0.6447, 0.1620, and 4.874, respectively (Burr 1967). The first term (i.e., a) represents the utility of engaging in the unanticipated goal (e.g., purchasing a cup of coffee) while the second term (i.e., $bt + ct^2$) corresponds to the disutility of engaging in the unanticipated goal (e.g., arriving late to class).

Individuals were assigned to group 1, 2, 3, or 4 (Group) in accordance with the sign of the parameters *a, b,* and *c,* and represented by the approximate functions in figure 3 (panels 1, 2, 3, and 4, respectively). Estimates for a were positive for all participants.

FIGURE 3: GROUP ASSIGNMENT BASED ON LIKELIHOOD FUNCTION PARAMETERS



As demonstrated in figure 3, the quadratic function defined in equation 3 allows the behavioral likelihood of individuals change direction in relation to the vertex of the function. Within the period for which behavioral likelihood was elicited, the sign of *b* dictates the slope of the likelihood function prior to reaching the minimum or maximum point. Since the sign of *b* is negative in equation 3, $b>0$ represents an initial decline and $b<0$ corresponds to an initial increase. Along similar lines, the sign of *c* determines the slope of the function after the minimum or maximum point. Since the sign of *c* is also negative in equation 3, $c>0$ represents a subsequent decline and $c<0$ corresponds to an increasing likelihood. As specified in equations 4 and 5, the vertex for each group (i.e., the minimum value of the function for groups 1 and 4 and the maximum value for groups

2 and 3) was calculated by taking the first derivative, with respect to *t,* of equation 2 (see equation 4) and solving for *t* (see equation 5).

$$dx/dt = -(b + 2ct) = 0 \quad (4)$$

$$t = -b/2c \quad (5)$$

where:

b, c = parameter estimates from equation 2
t = time.

Evaluating the second derivative of equation 2 (see equation 6) confirmed that the value of equation 4 corresponded to a maximum or minimum, as predicted by the approximations specified in figure 3.

$$d^2x/dt^2 = -(2t) \quad (6)$$

where:

t = time.

Specifically, if $d^2x/dt^2 > 0$, then the function reaches a minimum value; on the other hand, values of $d^2x/dt^2 < 0$ imply a maximum value of the function. Those individuals whose minimum or maximum point fell more than three standard deviations beyond the mean response for their assigned group (Scenario 1: $N = 9$; Scenario 2: $N = 9$) were excluded from subsequent analyses[2]. Further, since the responses of some participants contained little to no variability (Scenario 1: $N = 31$; Scenario 2: $N = 30$), the model failed to produce parameter estimates[3]. The responses of these individuals, in other words, did not vary over the time period for which measurements were taken (i.e., from 20 minutes early

[2] There was no correspondence between individuals whose likelihood minimum/maximum occurred more than three standard deviations from the mean in scenario 1 and those demonstrated this pattern for scenario 2.
[3] Eleven of these participants were excluded from both scenario 1 and 2 analyses based on a failure of the proposed model to estimate necessary parameters.

to 20 minutes late). These observations were thus excluded from subsequent analyses. Table 4 summarizes the group characteristics as well as the assignment of participants to the four mutually exclusive and exhaustive groups.

TABLE 4: GROUP ASSIGNMENT AND BEHAVIORAL LIKELIHOOD FUNCTION DESCRIPTORS

Scenario	Group	Parameter Estimates for Likelihood Function			*N*	% of *N*	Likelihood Function Vertex	
		a	***b***	***c***			**Maximum / Minimum**	**Mean Value (Std. Dev.)**
1	1	$a>0$	$b>0$	$c>0$	20	9.9	Maximum	-73.57 (54.06)
	2	$a>0$	$b<0$	$c<0$	0	0.0	Minimum	n/a
	3	$a>0$	$b>0$	$c<0$	123	60.9	Minimum	14.35 (16.07)
	4	$a>0$	$b<0$	$c>0$	59	29.2	Maximum	-10.73 (5.30)
2	1	$a>0$	$b>0$	$c>0$	13	6.5	Maximum	-138.18 (61.38)
	2	$a>0$	$b<0$	$c<0$	0	0.0	Minimum	n/a
	3	$a>0$	$b>0$	$c<0$	137	68.2	Minimum	14.48 (11.80)
	4	$a>0$	$b<0$	$c>0$	51	25.4	Maximum	-10.56 (4.64)

Based on the shape of the behavioral likelihood functions specified in figure 3 and the maximum and minimum t values estimated from equations 5 and 6 and presented in table 4, it becomes apparent that the behavioral likelihood functions that characterize groups 1 and 3 exhibit initially decreasing likelihood functions (i.e., $b>0$), while that of group 4 members initially increases (i.e., $b<0$). On the other hand, groups 1 and 4 demonstrate similar patterns as individuals draw near and surpass the deadline (i.e., $c>0$)

while group 3 exhibits an increased likelihood of engaging in the alternative goal following its initial decline (i.e., $c<0$). In summary, while individuals in groups 1 and 3 exhibit similar pre-deadline behavior, those in groups 1 and 4 share similar post-deadline patterns.

The behavioral likelihood demonstrated by individuals in group 3 is consistent with the effects predicted in H2a, such that the likelihood of engaging in an unanticipated goal, relative to an anticipated goal, decreased as the individual approached the deadline; further, in line with H2b, this likelihood then increased after reaching a minimum point occurring after the deadline. A chi-square goodness of fit test, conducted to determine whether the observed proportions for the categorical Group variable differ from that predicted by chance, provided support for H2 by demonstrating the a greater number of participants fall into this category for scenario 1 [$\chi^2(2, 202) = 80.33$, $p < .001$] and scenario 2 [$\chi^2(2, 202) = 121.97$, $p < .001$], compared to that predicted by chance. Thus, as predicted, a significant number of individuals behave in line with the effect predicted in H2.

While the parameter estimates associated with group 2 imply a likelihood function that increases with time, such that individuals demonstrated an increased likelihood of engaging in the alternative goal as the deadline approaches as well as when post-deadline temporal distance increases, no study participants exhibited such a pattern. Thus, group 2 was excluded from subsequent discussion and inclusion in analyses.

The functions exhibited by participants assigned to group 4 initially increased and, after reaching a maximum likelihood at a point prior to the deadline subsequently

declined. Although no predictions were made regarding assignment to group 4, assignment to this group is considered in subsequent analyses.

Those individuals in group 1 demonstrated a likelihood function that decreased continuously in time, beginning at a point prior to the deadline and continuing once the deadline was surpassed. This declining probability is predicted in H4 through H7 for individuals exposed to scenarios in which the consequences for missing the deadline are high, missing the deadline impacts parties other than merely the self, the importance of the anticipated goal is higher relative to the unanticipated goal, and for individuals who place a high value on punctuality. In other words, I predict that these individuals are more likely to be assigned to group 1 relative to other study participants. To further investigate these proposed differences in group assignment, and to evaluate the evidence in support of H4 through H7, a discriminant analysis was conducted for each scenario.

Each discriminant analysis (DA) was conducted to assesses differences in group assignment for four classes of predictor variables – consequences associated with missing a temporal deadline (Consequence: low vs. high), the parties impacted by missing the deadline (Parties Impacted: self vs. self and others), the relative importance of the conflicting goals (Importance: anticipated goal vs. unanticipated goal), four measured time-related individual differences (Punctuality, Lateness, Busyness, and Own Commitments), as well as demographic indicators. Since no predictions were made as to the relative contributions of each variable, all predictors were entered simultaneously into the DA procedure.

5.2.2 Scenario 1 Discriminant Analysis

The initial DA run for scenario 1 included all seven predictor variables as well as demographic measures. Thirteen observations were excluded from the analysis due to missing information on at least one predictor variable. Box's M statistic was calculated in order to assess the validity of this assumption of homogeneity of group variances. The calculated statistic indicated no violations of this assumption [*Box's M* = 217.89; $F(182, 9455.90) = .97$, $p = .59$]. Next, Wilks' lambda was used to test the null hypothesis that the groups have identical mean discriminant scores (i.e., z in equation 1) for the function(s) generated by the DA procedure (Klecka 1980). The overall Wilks' lambda was significant [$\Lambda = .68$, χ^2 (26, N=202) = 69.15, $p < .001$], indicating that, overall, the predictors differentiated between groups 1, 3, and 4. However, as shown in table 5, univariate ANOVAs assessing the equality of group means for each predictor variable indicated that not all variables significantly contributed to group distinctions.

TABLE 5: SCENARIO 1 INITIAL DISCRIMINANT ANALYSIS UNIVARIATE ANOVAS OF PREDICTOR VARIABLES

Predictor	*F*(2, 186)	*p*-value
Consequence*	9.01	.00
Parties Impacted	0.78	.46
Importance*	9.32	.00
Punctuality	0.72	.49
Lateness	1.49	.23
Busyness*	5.46	.01
Own Commitments*	2.74	.07
Age	0.18	.84
US Years	0.24	.79
Gender*	5.75	.00
Student	0.01	.99
Employment	1.17	.31
Ethnicity	0.01	.99

* $p < .10$, item retained for further analysis

Only those variables which significantly distinguished between groups at $p < .10$ were retained for further analyses.

5.2.2.1 Scenario 1 Functions

Along these lines, a separate DA was conducted to assess the impact of Consequence, Importance, Busyness, Own Commitments, and Gender on group assignment. Two observations were excluded from the analysis due to missing information on at least one predictor variable. The calculated Box's M statistic indicated no violation of the assumption of homogeneity of group variances [*Box's M* = 34.59; $F(30, 10549.00) = 1.08$, $p = .36$] and, therefore, the null hypothesis of homogeneity of group variances was accepted and the within-groups covariance matrices were used as input to DA procedures. Since the maximum number of discriminant functions for a DA in which the number of predictor variables is larger than the number of groups equals the number of groups minus one, the present analysis considers the ability of two functions to distinguish between the three defined groups. For this analysis, the overall Wilks' lambda was significant [$\Lambda = .70$, χ^2 (10, N=202) = 69.68, $p < .001$], indicating that, overall, the predictors differentiated among the three groups defined by the shape of participants' behavioral likelihood functions. Further, the residual Wilks' lambda was significant [$\Lambda = .93$, χ^2 (4, N= 202) = 13.48, $p < .01$], indicating that the predictors significantly differentiate among the functions after partialling out the effects of the first discriminant function. In other words, two functions (Discriminant Function 1 and Discriminant Function 2) discriminate between the groups. The two functions are defined according to equation 1, using the parameters specified in table 6.

TABLE 6: SCENARIO 1 DISCRIMINANT FUNCTION COEFFICIENTS

	Discriminant Function			
	1		2	
Predictor Variable	**Unstandardized *w***	**Standardized *w***	**Unstandardized *w***	**Standardized *w***
Consequence	1.51	.72	-.04	-.02
Importance	1.46	.69	.41	.19
Busyness	-.70	-.51	.17	.12
Own Commitments	-.05	-.03	.40	.30
Gender	-.01	0.00	1.82	.89
(Constant)	1.08	n/a	-2.71	n/a

In addition, as shown in table 7, an ANOVA of the predictor variables with Group as the independent variable demonstrated that the relative importance of the conflicting goals, the presence of consequences, the busyness of the individual, and gender were significantly different among groups. The difference between groups in terms of Own Commitments was marginally significant.

TABLE 7: SCENARIO 1 REVISED DISCRIMINANT ANALYSIS MEANS AND UNIVARIATE ANOVAS OF PREDICTOR VARIABLES

Predictor Variable	**Group**	**Mean**	**Std. Deviation**	**Overall**		**F(2,197)**	**p-value**
				Mean	**Std. Deviation**		
Consequence	1	.40	.50	.52	.50	11.78	.00
	3	.64	.48				
	4	.29	.46				
Importance	1	.50	.51	.56	.50	10.21	.00
	3	.68	.47				
	4	.34	.48				
Busyness	1	3.84	.77	3.64	.74	4.43	.01
	3	3.52	.72				
	4	3.82	.73				
Own Commitments	1	2.95	.57	2.62	.74	2.61	.08
	3	2.55	.76				
	4	2.66	.74				
Gender	1	.80	.41	.46	.50	5.92	.00
	3	.44	.50				
	4	.37	.49				

Before specifying the role of each predictor variable in forecasting group membership, I first seek to uncover the relationship between the two discriminant functions and the pre-defined groups. To interpret the two discriminant functions, I first consider the group centroids, or the unstandardized discriminant scores at the group means, for each of the functions (see table 8). These mean discriminant scores are calculated in accordance with equation 1, based on the coefficients presented in table 6.

TABLE 8: SCENARIO 1 DISCRIMINANT SCORES AT GROUP MEANS

Group	Function	
	1	2
1	-.42	.77
3	.46	-.04
4	-.79	-.18

Based on the group means, it appears that function 1 primarily distinguishes group 3, those individuals whose likelihood of engaging in an anticipated goal first increases with time and then decreases, from groups 1 and 4. This is due to the relatively higher mean discriminant score for group 3, relative to groups 1 and 4, on function 1. Along similar lines, the difference in Discriminant Function 2 scores suggest that, after partially out the effect of the first discriminant function, the second function distinguishes between groups 1 and 4. In addition, an ANOVA of discriminant scores with group assignment as the independent factor revealed group differences in the both the first discriminant function score [$F(2,199) = 39.90$, $p < .001$] and the second [$F(2,199) = 7.05$, $p < .01$]. Follow-up analyses assessing pairwise differences in the means of the discriminant scores on the first discriminant function provide further support for this contention. The mean Discriminant Function 1 score for group 3 ($M = .46$) differed significantly from the mean score for group 1 [$M = -.42$; $t(197) = 3.62$, $p < .001$] and group 4 [$M = -.79$; $t(197) = 7.87$,

$p < .001$]. Pairwise differences between function 1 scores for groups 1 and 4 were not significant [$t(197) = 1.45$, $p = .15$]. Along the same lines, the second discriminant function appears to account for differences between groups 1 and 4. Post hoc analyses reveal a significant difference between the mean scores of groups 1 and 4 on the second discriminant function [$M = .77$ vs. $M = -.18$; $t(197) = 3.36$, $p < .01$].

Assessing the correlations between the predictor variables and each discriminant function, as specified in the structure matrix (see table 9), further supports this assessment and provides insight as to which predictor variables are strongly associated with each function. The correlations differ from the discriminant function coefficients; while the coefficients represent the partial contribution of each predictor to the function while controlling for the other variables, the structure coefficients represent the whole correlations without consideration of the other variables. So while the standardized coefficients are best used to assess each variable's unique contribution to the discriminant score relative to the other included predictors, the structure matrix coefficients are best suited for assigning meaning to the functions (Klecka 1980).

TABLE 9: SCENARIO 1 STRUCTURE MATRIX INDICATING CORRELATION OF EACH PREDICTOR VARIABLE WITH DISCRIMINANT FUNCTIONS

	Function	
Predictor Variable	**1**	**2**
Consequence	.60*	.01
Importance	.55*	.14
Busyness	-.36*	.16
Own Commitments	-.17	.48*
Gender	.00	.92*

*Largest absolute correlation between each variable and any discriminant function

5.2.2.1.1 Function 1. Based on the correlations shown in the structure matrix, it is evident that the relative importance assigned to the anticipated goal, the presence of consequences associated with missing a temporal deadline, and individual differences

related to perceived busyness characterize the first discriminant function. Since the first two factors were coded as dichotomous variables (Importance: 0 = unanticipated goal, 1 = anticipated goal; Consequence: 0 = low consequence, 1 = high consequence), the coefficient indicates that both have a strong, positive relationship with Discriminant Function 1. The measured individual difference measure assessing perceived busyness has a negative relationship with this function.

Pairwise comparisons of the means of the predictor variables for groups 1, 3, and 4 reveal that the mean value of Consequence for group 3 (M = .64) was higher than the mean values for both group 1 [M = .40; $t(199) = 2.11$, $p < .05$] and group 4 [M = .29; $t(199) = 4.69$, $p < .001$]. While H4 predicts that the association of the deadline with higher consequences is more likely to result in assignment to group 1, whose members exhibit behavioral likelihood functions that decline continuously with time, this result indicates that individuals are more likely to behave in line with H2 (i.e., assignment to group 3) when the consequences for missing a deadline are higher. Thus, H4 is not supported.

Further, the mean value of Importance for group 3 (M = 0.68) was significantly higher than that of group 4 [M = 0.34; $t(199) = 4.45$, $p < .001$]. The average level of Importance for group 3 was also higher than that of group 1 (M = 0.50), but this difference fell short of significance [$t(199) = 1.52$, $p = .13$]. This finding runs contrary to H6, which predicts that the likelihood of engaging in the alternative goal will decline with time when the anticipated goal is of higher importance. Rather than increasing the probability of assignment to group 1, these results demonstrate that individuals are more likely to behave in line with H2 (i.e., assignment to group 3) when the importance of the anticipated goal is higher relative to the unanticipated goal.

Since Punctuality was not significant in the first DA for scenario 1, it is not shown that valuing punctuality results in a declining likelihood function, as predicted in H7. While no specific predictions were made regarding group assignment for individuals with varying levels of Busyness, the mean value of this variable for group 3 (M = 3.52) was lower than that of group 4 [M = 3.82; t(198) = -2.76, p < .01] and group 1 [M = 3.84; t(198) = -1.91, p = .06], albeit it only marginally so. In other words, individuals in group 3 were less likely to perceive themselves to be busy, relative to individuals in groups 1 and 4.

Since Parties Implicated was not a significant predictor in the initial DA for scenario 1, this variable is not included in the final analysis demonstrated in table 9. It is not shown failing to meet a deadline that implicates others, as opposed to only the self, results in a declining likelihood function, as predicted in H5.

5.2.2.1.2 Function 2. According to the structure of the functions defined in table 9, the second discriminant function, which differentiates between groups 1 and 4 after partialling out the effects of the first discriminant function, appears to be a function of gender and the individual difference measure assessing tendency to value one's own schedule relative to others. Both variables demonstrate positive relationships with the second discriminant function. Post hoc analyses revel that the mean value of gender for group 1 (M = 0.80) was significantly higher than that of group 4 [M = 0.37; t(197) = 3.39, p < .01]. Since gender was coded as a dichotomous variable (0 = female, 1 = male), this provides evidence that relative to group 4, individuals in group 1 are more likely to be male. Despite the fact that no differences were predicted between these groups, or for any

groups based on gender, it is interesting that individuals in group 1 are predominately male.

Finally, although the overall ANOVA results revealed marginally significant differences between groups in terms of Own Commitments (see table 7), the difference between groups 1 and 4 on this variable did not reach significance [M = 2.95 vs. 2.66; $t(198) = 1.52, p = .13$].

5.2.2.2 Predictive Value of Functions

While the intention of the DA conducted for study 1 was not to obtain functions to be used for classification purposes, but rather to explore group differences on the predictor variables, the classification results do provide some insight as to the explanatory value of the discriminant functions. The functions produced for scenario 1 were able to correctly classify 61% of the individuals in the sample. In order to determine whether this rate is an improvement over chance agreement, a kappa coefficient was calculated. The kappa value of .37 was statistically significant from zero ($z = 7.76$, $p < .001$) and, therefore, the null hypothesis that the group assignment predicted by the discriminant scores does not differ from that predicted by chance can be rejected. Rather, the kappa value indicates that there is a fair association between the predicted assignment and actual group assignment (Altman 1991).

5.2.3 Scenario 2 Discriminant Analysis

Similar to the initial DA conducted for scenario 1, preliminary procedures for scenario 2 included all seven predictor variables as well as demographic measures. Fifteen observations were excluded from the analysis due to missing information on one or more of the predictor variables. Box's M statistic indicated a violation of the

assumption of homogeneity of group variances [*Box's M* = 260.02; $F(91, 21700.20) = 2.52$, $p < .001$]. The overall Wilks' lambda was significant [$\Lambda = .73$, $\chi^2(26, N = 186) = 56.77$, $p < .001$], indicating that overall the predictors differentiated between groups 1, 3, and 4. However, as shown in table 10, univariate ANOVAs assessing the equality of group means for each predictor variable indicated that not all variables significantly contributed to group distinctions.

TABLE 10: SCENARIO 2 INITIAL DISCRIMINANT ANALYSIS UNIVARIATE ANOVAS OF PREDICTOR VARIABLES

Predictor	*F*(2, 193)	*p*-value
Consequence*	3.82	.02
Parties Impacted*	3.00	.05
Importance*	12.72	.00
Punctuality	1.37	.26
Lateness	1.15	.32
Busyness	1.47	.23
Own Commitments	1.58	.21
Age	1.08	.34
US Years	0.17	.85
Gender	0.78	.46
Student	0.12	.89
Employment	1.03	.36
Ethnicity	0.14	.87

* $p < .10$, item retained for further analysis

Only those variables which significantly distinguished between groups at $p < .10$ were retained for subsequent analyses.

5.2.3.1 Scenario 2 Functions

Next, a DA was conducted to assess the impact of Importance, Parties Impacted, and Consequence on group assignment. Three observations were excluded from this analysis due to missing information on at least one predictor variable. The revised Box's M statistic indicated no violation of the assumption of homogeneity of group variances [*Box's M* = 20.35; $F(12, 4899.89) = 1.59$, $p = .09$] and, therefore, the within-groups

covariance matrices were used as input to the DA. The overall Wilks' lambda was significant [Λ = .810, χ^2 (6, N=198) = 40.86, p < .001], indicating that the predictors differentiated among the three groups defined by the parameters of the individual behavioral likelihood functions. The residual Wilks' lambda was marginally significant [Λ = .974, χ^2 (2, N= 198) = 5.15, p = .07], indicating that the second function allowed for some degree of between-groups discrimination after partialling out the effects of the first function. Based on this, I explore the role of two discriminant functions (Discriminant Function 1 and Discriminant Function 2). These functions are defined according to equation 1, using the parameters specified in table 11.

TABLE 11: SCENARIO 2 DISCRIMINANT FUNCTION COEFFICIENTS

	Discriminant Function			
	1		**2**	
Predictor Variable	**Unstandardized *w***	**Standardized *w***	**Unstandardized *w***	**Standardized *w***
Consequence	1.02	.51	.37	.18
Parties Impacted	-.34	-.17	1.97	.98
Importance	1.94	.91	.25	.17
(Constant)	-1.43	n/a	-1.35	n/a

In addition, as shown in table 12, the predictor variables measuring the relative importance of the conflicting goals and the presence of consequences were significantly different among groups. Group differences in Parties Impacted were marginally significant.

TABLE 12: SCENARIO 2 REVISED DISCRIMINANT ANALYSIS MEANS AND UNIVARIATE ANOVAS OF PREDICTOR VARIABLES

Predictor Variable	Group	Mean	Std. Deviation	Overall		F(2,195)	p-value
				Mean	Std. Deviation		
Consequence	1	.46	.52	.55	.50	3.17	.04
	3	.60	.49				
	4	.40	.50				
Parties Impacted	1	.85	.37	.52	.50	3.11	.05
	3	.49	.50				
	4	.50	.51				
Importance	1	.31	.48	.55	.50	14.20	.00
	3	.67	.47				
	4	.28	.45				

To interpret the discriminant functions, I consider the group centroids, or the unstandardized discriminant scores, at the group means (see table 13). These scores are calculated in accordance with equation 1, using the coefficients presented in table 11.

TABLE 13: SCENARIO 2 DISCRIMINANT SCORES AT GROUP MEANS

Group	Function	
	1	2
1	-.66	.57
3	.31	.00
4	-.65	-.15

Based on the discriminant scores at the group means, it appears that Discriminant Function 1 distinguishes group 3, those individuals whose likelihood of engaging in an anticipated goal first increases with time and subsequently decreases, from groups 1 and 4. This is due to the relatively higher mean discriminant score for group 3, relative to groups 1 and 4, on the first discriminant function. An ANOVA of discriminant scores with group assignment as the independent factor provided additional support for this contention. Specifically, analyses revealed group differences in the first discriminant

function score [$F(2,195) = 19.71$, $p < .001$]. Follow-up analyses assessing the group pairwise differences in the means of the first discriminant function scores indicate that the mean score for group 3 ($M = .30$) differed significantly from the mean score for group 1 [$M = -.65$; $t(195) = 3.30$, $p < .01$] and group 4 [$M = -.65$; $t(195) = 5.81$, $p < .001$]. No significant distinctions were found between the scores of group 1 and group 4 on the first discriminant function [$t(195) = -.01$, $p = .99$].

Based on the mean discriminant scores for Discriminant Function 2, this combination of variables appears to differentiate between groups 1 and 4. An ANOVA of discriminant scores with group assignment as the independent factor revealed marginally significant differences between the mean scores based on groups [$F(2,195) = 2.62$, $p = .08$]. Follow-up analyses reveal significant differences in the scores of participants in group 1 ($M = .57$) relative to group 4 [$M = -.15$; $t(195) = 2.29$, $p < .05$].

5.2.3.1.1 Function 1. Based on the correlations between the predictor variables and each discriminant function as specified in the structure matrix (see table 14), the relative importance assigned to the anticipated goal and the presence of consequences associated with missing a temporal deadline each demonstrate a strong, positive relationship with Discriminant Function 1 in scenario 2.

TABLE 14: SCENARIO 2 STRUCTURE MATRIX INDICATING CORRELATION OF EACH PREDICTOR VARIABLE WITH DISCRIMINANT FUNCTIONS

	Function	
Predictor Variable	**1**	**2**
Consequence	.40*	.18
Parties Impacted	-.17	.98*
Importance	.91*	.12

* largest absolute correlation between each variable and any discriminant function

Pairwise comparisons of the means of the predictor variables for groups 1, 3, and 4 reveal that the value of Consequence for group 3 ($M = 0.60$) was higher than that of

group 4 [$M = 0.40$; t (195) = 2.44, $p < .05$]. Although the mean value of consequences for group 3 was higher than that of group 1 [$M = 0.46$; $t(195) = .97$, $p = .34$], this difference did not reach significance. Although this finding runs contrary to H4, which predicts that individuals exposed to a scenario in which consequences are high, compared to low, will exhibit a declining behavioral likelihood function (i.e., assignment to group 1), it is consistent with the findings of the scenario 1 DA. Relative to others, participants in group 3 were more likely to have seen a scenario in which consequences for failing to meet the anticipated goal were high.

In line with the results from scenario 1, the mean value of Importance for group 3 ($M = 0.67$) was significantly higher than that of group 1 [$M = 0.31$; $t(195) = 2.64$, $p < .01$] and of group 4 [$M = 0.28$; $t(195) = 4.98$, $p < .001$]. In other words, contrary to H6, individuals who exhibit a u-shaped behavioral likelihood function (i.e., those in group 3) are more likely to have been exposed to a scenario that included an anticipated goal of higher importance than the unanticipated goal, compared to those in groups 1 and 4.

5.2.3.1.2 Function 2. According to the structure of the functions defined in table 14, the second discriminant function, which differentiates among groups 1 and 4 after partialling out the effects of the first discriminant function, appears to be a function of the parties implicated by missing the deadline. Since this factor was coded as dichotomous variable (0 = self, 1 = self and others), results demonstrate its positive relationship with the second discriminant function. Post hoc analyses revealed that the mean value of Parties impacted for group 1 ($M = 0.85$) was significantly higher than that of group 4 [$M = 0.50$; $t(195) = 2.24$, $p < .05$]. This provides evidence that relative to other groups, individuals in group 1 are more likely to have been exposed to a scenario that implicates

others, rather than merely the self. However, it is important to note that the function's ability to discriminate between groups 1 and 4, as dictated by Wilks' lambda, was only marginally significant.

Neither Punctuality, nor any other time-related individual difference measure, was a significant predictor in the scenario 2 DA. Therefore, it cannot be concluded that these variables are significant predictors of group assignment in scenario 2.

5.2.3.2 Predictive Value of Functions

The two discriminant functions for scenario 2 resulted in a correct classification rate of 47% of the observations. Further, the kappa value of .16 was statistically significant from zero ($z = 3.73$, $p < .001$) and, therefore, the null hypothesis that the group assignment as predicted by the discriminant scores does not differ from that predicted by chance can be rejected. While the rate of classification is better than that predicted by chance, the kappa value indicates that the association between the predicted assignment and actual group assignment was relatively low (Altman 1991).

5.3 DISCUSSION

Analysis of group membership for study 1 participants provided support for H2 by demonstrating that the majority of study participants exhibited a behavioral likelihood function which, after decreasing to a minimum point, increased once the individual passed the deadline (see figure 3, panel 3). This is consistent with the proposition that, when faced with multiple pursuits that conflict due to the presence of a temporal deadline, individuals are more likely to initially behave in line with their anticipated goal, which is constrained in time. In line with prior research on goal striving (e.g., Hull 1932; Kivetz et al. 2006), study 1 findings demonstrate that the likelihood of engaging in the

unanticipated goal initially declines. Once the deadline has been reached and surpassed, however, individuals face negative feedback regarding goal progress. In line with extant literature which predicts a deterioration of performance in such cases (e.g., Polivy and Herman 1985; Soman and Cheema 2004), and as predicted, goal-directed effort is subsequently geared towards the unanticipated pursuit.

Further analysis of the factors influencing group assignment via DA procedures provided insight as to both the internal and external factors influencing goal-directed behavior in relation to the temporal deadline. Across both scenarios, the function with the greatest ability to differentiate between groups (i.e., Discriminant Function 1) distinguished group 3 from groups 1 and 4, or those who exhibited a u-shaped behavioral likelihood function with regard to an unanticipated goal from those who did not. The loadings on this function further illustrated that the likelihood of assignment to group 3 was based primarily upon exposure to a scenario in which the consequences for missing the temporal deadline associated with the anticipated goal were relatively high, and for situations in which the importance of the anticipated goal was higher than the unanticipated goal. While participants who reported a tendency to be busy were less likely to exhibit the behavior pattern associated with group 3 in scenario 1, this finding did not hold for scenario 2.

The ability of the first function to distinguish group 3 from the other groups is interesting in light of the variation in behavior patterns. The behavior that differentiates group 3 is that which occurs after the deadline is surpassed; while the likelihood of engaging in the alternative goal increases for group 3, that of groups 1 and 4 declines post-deadline (see figure 3, panel 3 vs. panels 1 and 4). Considered in conjunction with

the factors that comprise the first discriminant function, this illustrates that both instances in which a temporal deadline is associated with consequences and those in which an anticipated goal is assigned a high degree of importance relative to an unanticipated goal are likely to affect post-deadline behavior and, more specifically, result in an increased likelihood of engaging in one's unanticipated goal. Contrary to H4 and H6, which posit that individuals exposed to these factors will be more likely to exhibit a continuously declining behavioral likelihood function (i.e., assignment to group 1; see figure 3, panel 1), these participants were more likely to exhibit a function which initially declined prior to increasing post-deadline (i.e., assignment to group 3; see figure 3, panel 3).

Although contrary to prior predictions, these findings might be explained as reactions to the affect anticipated in response to missing a deadline. Extant research demonstrates that both negative incentives tied to goal outcomes and the abandonment of goals considered to be of high personal relevance can result in the generation of anticipated negative affect (Klinger 1987; Wicker et al. 1994; Wrosch, Scheier, Carver, and Schulz 2003). While H3 predicts that the negative affect generated by missing a temporal deadline is likely to result in behavior in line with the unanticipated goal as a means of affect regulation, it is possible that missing a deadline associated with high consequences, or one associated with a goal that is of higher importance relative to its alternative, may accentuate this response due to a higher degree of anticipated negative affect. In this situation, individuals might be more likely to switch to the unanticipated goal due, at least in part, to its potential to remedy one's negative affective state. This explanation is explored in study 2.

Once the effects of the first function are partialled out, the process of differentiating groups 1 and 4 remains. While individuals in these groups express similar post-deadline behavioral likelihood, members of groups 1 and 4 differ in their pre-deadline goal-directed activity; those in group 1 demonstrate an initially declining function while those in group 4 have an initially increasing one (see figure 3, panel 1 vs. panel 4). Therefore, the second discriminant function for scenarios 1 and 2 acts to distinguish variable patterns in pre-deadline goal-directed activity.

In scenario 1, gender was the only variable that predicted differences in group assignment. The positive loading indicated that those assigned to group 1 were predominately male while more females were classified as members of group 4. In other words, males were more likely to exhibit initially decreasing likelihood functions while females were more likely to demonstrate a constant or increasing likelihood of engaging in the alternative goal pre-deadline. While no gender differences were hypothesized, the finding that males were more likely to initially strive towards the anticipated goal (i.e., forego the unanticipated goal) is consistent with early work on time-related individual differences that demonstrated the tendency for males to be more punctual than females (Dudycha 1937). In addition, more recent work illustrates that, at least in some cultures, expectations of punctuality tend to be higher for males compared to females (Kanekar and Vaz 1993).

Based on the loading patterns of variables on the second function in scenario 2, as well as follow-up ANOVAs, there is some evidence that individuals in group 1 were more likely to have been exposed to a scenario in which failing to meet the temporal deadline implicates others, rather than merely the self. While this finding is consistent

with the H5 prediction that implicating others results in a greater likelihood to forgo the unanticipated goal in favor of meeting the deadline regardless of one's classification as early or late, the impact of implicating others was not found in scenario 1. In line with extant research that illustrates that the act of causing others to wait might cultivate a status-asserting impression (e.g., Greenberg 1989), it is possible that participants were inclined to make their group members wait as a means of impression management, whereas the status differential between a student and doctor resulted in a stronger desire to behave in accordance with the deadline-constrained goal. While caution must be given to this interpretation due to the marginal significance of the residual Wilks' lambda, which represents the ability of the function to discriminate between groups 1 and 4 beyond the distinction accounted for by the first function, status-differential in processes of goal prioritization and punctuality comprise and interesting and important direction for future research.

Although gender and, at least to some extent, the parties implicated by missing a deadline distinguished pre-deadline goal-directed activity in scenario 1 and 2, respectively, there was no variable that discriminated between groups 1 and 4 across scenarios. Interestingly, the consideration of group characteristics also raises questions as to the meaningful differences between these groups. While the likelihood function differences occur pre-deadline, such that those in group 1 exhibit a function that declines while that of group 4 is initially increasing, both groups expressed intentions to behave in a similar manner at a point occurring approximately 11 minutes prior to the deadline, as defined by the mean value of the function maximums for group 4. After this point, the likelihood of engaging in the unanticipated goal declines for both groups, so that the

behavior only differs for a short time period – one that occurs at a time period relatively early with regard to the deadline. Along these lines, study 2, which explores processes of affect regulation in the context of goal switching and reprioritization based on proximity to/from a temporal deadline, manipulates lateness between subjects and accounts for this possibility by assessing behavioral likelihood at only one point in time for each participant. The procedure for and findings of study 2 are discussed next.

CHAPTER 6: STUDY 2

While study 1 provided support for H2, which predicts that the likelihood of engaging in the unanticipated goal will decline when approaching a temporal deadline and subsequently increase once the individual has exceeded this point of reference, study results related to the moderating role of consequences and the relative importance of the conflicting goals seek explanation. Contrary to H4 and H6, results from both study 1 scenarios demonstrate that the association of the deadline with high consequences and situations in which higher relative importance is assigned to the anticipated goal accentuate, rather than attenuate, the post-deadline effect proposed in H2.

Although these results are not in line with study 1 predictions, they can perhaps be explained in terms of the affect regulation processes posited as underlying goal switching behavior. Extant literature provides evidence that, in general, negative affect results from negative discrepancies between current and goal states (Carver and Scheier 1998). In other words, negative emotion is generated when an individual has evidence indicating that she has not or is not likely to reach her goal. Further, related research demonstrates that the failure to achieve goals associated with negative incentives can result in even higher levels of anticipated negative affect (Klinger 1987; Wicker et al. 1994), as can abandoning goals of higher importance or personal relevance (Wrosch, Scheier, Carver, and Schulz 2003). If this is the case, then the presence of either factor is likely to further increase effort aimed at reducing the negative affect associated with failing to meet a goal (Connolly, Ordóñez, and Coughlan 1997; Klinger 1987). Along these lines, study 2 explores the process underlying study 1 results when the consequences associated with missing a temporal deadline vary. In line with H3, which

proposes that engaging in the unanticipated goal acts as a means of repairing negative affect, I predict that the presence of higher consequences will result in an increased likelihood of switching attention from the anticipated to the unanticipated goal once the associated deadline has been missed and, in turn, a reduction in anticipated negative affect.

In addition to exploring the proposed process of affect regulation, study 2 also tests the underlying assumption that time-related changes in the likelihood of engaging in the alternative goal are based on changes in goal prioritization and resulting goal switching. H1a predicts that prior to a deadline, a time-constrained anticipated goal will be assigned priority relative to an unanticipated goal. On the other hand, H1b posits that once the deadline is surpassed, the unanticipated goal will be assigned priority relative to the anticipated goal. Along these lines, the objectives of the second study are to test the hypothesis that engaging in the unanticipated goal acts as a means of repairing negative affect generated by the negative discrepancy between current and desired end states as well as other contextual factors, and to provide support for the contention that changes in goal prioritization underlie the observed study 1 results.

6.1 METHOD

6.1.1 Participants

One hundred and twenty-four undergraduate students (57 female, 64 male, and three who did not provide gender information) participated in the study in partial fulfillment of course requirements. The average age of the participants was 23.74, ranging from 19 to 45 years.

6.1.2 Design

Similar to study 1, the second study utilized hypothetical scenarios based on deadline-constrained situations. Study 2 participants were provided with a scenario in which they were told that they were on their way to class (anticipated goal) when they realized that they were craving their favorite beverage (unanticipated goal). Rather than assessing behavioral likelihood at a series of points in time, study 2 included a between-subjects manipulation of temporal distance (Distance), such that participants were told that they estimated that they would arrive either on time (low distance) or that they were already ten minutes late (high distance) for the class. Further, they were told that since engaging in the unanticipated goal would take approximately two minutes, they would be either late or later, corresponding to their assignment to either the low or high Distance condition, respectively.

Likewise, the consequences associated with missing the deadline (Consequence) were manipulated between subjects in a manner identical to the procedure used in study 1; specifically, individuals were told that late class arrival either resulted in being marked down late on the class record (high consequence) or that no penalty was assessed (low consequence). Study 1 pretest results, which utilized students from the same population from which study 2 participants were drawn, indicated that individuals exposed to the deadline associated with high consequences rated the consequences as higher than those who were told that no penalty existed [M = 4.00, SD = 1.17 vs. M = 3.10, SD = 1.33; $F(1,36) = 5.17$, $p < .05$]. Subjects were randomly assigned to one of four conditions in accordance with the 2 (Distance: low vs. high) x 2 (Consequence: low vs. high) design.

6.1.3 Procedure

After reading the scenario, participants were asked how likely they were to engage in the unanticipated goal (Likelihood) on a seven-point scale (1 = "very unlikely", 7 = "very likely"). Following this statement of behavioral intention they were asked to indicate how they would feel in this situation in terms of four items assessing level of anxiety (i.e., "anxious," "on edge," "relaxed," and "calm") and depression (i.e., "depressed," "dejected," "happy," and "satisfied"). These items, which capture both positive and negative affect, were taken from prior research investigating emotional responses to goal conflict (Shah, Friedman, and Kruglanski 2002). Responses were elicited using a seven-point scale (1 = "not at all", 7 = "very much"). Factor analysis revealed that, as opposed to loading in accordance with the affective dimensions of anxiety and depression, the negative affective items (i.e., "anxious," "on edge," "depressed," and "dejected") loaded together on one factor while positive affective items (i.e., "relaxed," "calm," "happy," and "satisfied") loaded on a separate factor. Along these lines, a composite score assessing negative affect was calculated as the mean of the four items assessing negative affect (Negative Affect: *Cronbach's alpha* = 0.81) and a measure of positive affect was calculated as the mean of the remaining items (Positive Affect: *Cronbach's alpha* = 0.78).

After responding to these items, participants provided responses to five items aimed at directly assessing affect regulation (Regulation: *Cronbach's alpha* = 0.78; see Regulation1 through Regulation5, appendix C), four items assessing goal prioritization (see Priority1 through Priority4, appendix C), and two items reflecting goal switching (see Switch 1 and Switch 2, appendix C).

Next, to assess the effectiveness of the manipulation of temporal distance, study participants were asked to indicate the extent to which they considered themselves to be late to class in the scenario on a seven-point scale (1 = "not at all late", 7 = "very late"). They also indicated the point at which they would be likely to disengage from the pursuit of the anticipated goal by responding to the question "Is there a time beyond which you would decide that it is too late to attend class and you would simply not go?" Responses were elicited using an open-ended measure, which asked participants to "please write down how many minutes late that would be _____." This item helped to ensure that the results are driven by processes of goal prioritization, whereby the individual temporarily suspends pursuit of the anticipated goal in favor of effort geared towards the unanticipated goal, rather than permanent disengagement from one goal for the sake of the other.

Following approximately 20 minutes of unrelated intervening material, participants provided responses to the same time-related individual difference items that were assessed in study 1: punctuality (Punctuality: *Cronbach's alpha* = 0.77), tendency to be late (Lateness: *Cronbach's alpha* = 0.73), perceived busyness (Busyness: *Cronbach's alpha* = 0.69), and importance of their own schedule and commitments relative to those of others (Own Commitments: *Cronbach's alpha* = 0.80; see appendix B). Demographic information assessing age (Age), number of years lived in the United States (US Years), gender (Gender), student status (Student), employment (Employment), and ethnicity (Ethnicity) was also collected.

6.2 ANALYSIS AND RESULTS

Prior to testing the hypotheses, several analyses were conducted to ensure that respondents perceived the scenarios as intended. First, perceptions of lateness in each scenario were compared to assess the effectiveness of the temporal distance manipulation. Results indicated that those who were told that they were already 10 minutes late did consider themselves to be later than those who were told that they were on time [$M = 4.56$, $SD = 1.75$ vs. $M = 3.17$, $SD = 1.59$; $t(110) = 14.29$, $p < .001$]. Next, the points in time at which individuals intended to abandon the anticipated goal were assessed to ensure that participants perceived the scenarios as opportunities for goal prioritization, rather than disengagement from the anticipated goal. For those individuals who indicated that there was a point at which they would be likely to disengage from pursuit of the anticipated goal, this behavior occurred at a point significantly greater than the maximum number of minutes post-deadline that an individual could expect to be based on the manipulation of lateness [$M = 32.66$, $SD = 15.23$ vs. 12 minutes after deadline; $t(122) = 4.61$, $p < .001$].

The analysis of study 2 data was conducted in two phases. First, a mediation analysis was conducted to provide support for H3, which predicts that engaging in the alternative goal acts as a means of remedying one's negative affective state. Specifically, a series of three regression analyses assessed the impact of the predictor variables on the degree of anticipated negative affect and the likelihood of engaging in the alternative goal, while a more comprehensive model considered purchase likelihood as a mediator of the relationship between the predictor variables and anticipated negative affect. Next, differences in the direct measures of affect regulation between those who were more and

less likely to engage in the alternative goal were evaluated to provide additional support for the proposed process. Further, group differences in goal switching and goal prioritization were considered to test H1, which posits that distance to/from a deadline results in the differential valuation of conflicting pursuits. These analyses are discussed next.

6.2.1 The Mediating Role of Goal-Directed Behavior in Reducing Negative Affect

To test the hypothesis that engaging in the unanticipated goal (i.e., purchasing the beverage) acts as a means of reducing negative affect generated by the discrepancy between current and desired end states (i.e., H3), a mediation analysis was conducted. More specifically, this analysis explored whether the likelihood of engaging in the alternative goal mediated the relationship between temporal distance and anticipated negative affect; moreover, the moderating role of the association of the deadline with consequences was considered. Following Muller, Judd, and Yzerbyt (2005), the analysis was conducted in three stages.

First, the measure of negative affect was regressed on Consequence, Distance, and their interaction. The four time-related individual difference measures (Punctuality, Lateness, Busyness, and Own Commitments), as well as demographic measures, were included in the model as covariates. The results, shown in table 15, demonstrate a significant main effect of Consequence and a marginally significant main effect of Distance, such that both increase the degree of anticipated negative affect. On the other hand, and in line with the proposed process of affect regulation, the interaction of these two factors resulted in a reduction in negative affect. This, presumably, is attributable to the greater likelihood of these individuals to engage in the unanticipated goal, which is

tested in the next regression analysis. Since Punctuality and Lateness were significant covariates, such that individuals who placed a higher value on punctuality as well as those who tend to run late reported higher levels of negative affect, these variables were also included in subsequent analyses. Neither time-related individual differences related to perceived busyness or the tendency to value one's one commitments relative to those of others nor demographic measures were significant predictors of negative affect[4].

TABLE 15: FIRST MEDIATION ANALYSIS ASSESSING THE RELATIONSHIP BETWEEN PREDICOR VARIABLES AND ANTICIPATED NEGATIVE AFFECT

Predictor	***β***	***t*(93)**	***p*-value**
(Constant)	-.09	-.07	.94
Consequence*	.86	2.80	.01
Distance*	.57	1.79	.08
Consequence x Distance*	-1.09	-2.37	.02
Punctuality*	.34	1.82	.07
Lateness*	.39	3.07	.00
Busyness	-.02	-.11	.92
Own commitments	-.09	-.53	.60
Age	.00	.13	.90
US Years	-.01	-.67	.50
Gender	.01	.05	.96
Student	-.18	-.44	.66
Employment	.09	.43	.67
Ethnicity	.02	.21	.84

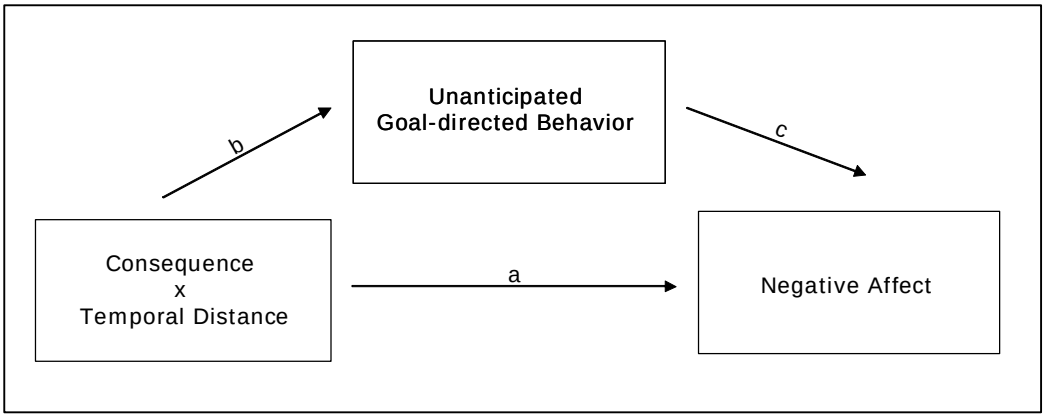
* $p < .10$, item retained for further analysis

Since the magnitude of the treatment effect depended on the moderation of Consequence and Distance, I explore the process of mediated moderation, which considers the mediation process through which this moderation effect is produced (Muller, Judd, and Yzerbyt 2005). More specifically, this analysis explores whether, in line with H3,

[4] Along these lines, the initial regression analysis was rerun to include only significant predictors. Consequence [$\beta = .92$, $t(110) = 3.35$, $p < .01$], Distance [$\beta = .59$, $t(110) = 2.12$, $p < .05$], their interaction [$\beta = -.89$, $t(110) = -2.22$, $p < .05$], Punctuality [$\beta = .36$, $t(110) = 2.27$, $p < .05$], and Lateness [$\beta = .42$, $t(110) = 3.64$, $p < .001$] remained significant predictors of anticipated negative affect in the revised model.

engaging in the alternative goal is the means by which negative affect is reduced (see figure 4).

FIGURE 4: PROPOSED MEDIATED MODERATION BETWEEN CONSEQUENCE X DISTANCE AND NEGATIVE AFFECT



Along these lines, a second regression analysis was conducted to explore the role of Consequence, Distance, and their interaction on the proposed mediator variable, the likelihood of engaging in the unanticipated goal[5] (see figure 4, path b). Punctuality and Lateness were included as covariates. Results, shown in table 16, revealed that Consequence negatively impacted the likelihood of engaging in the unanticipated goal. Distance also had a negative impact, although this effect did not reach significance. Consistent with study 1 results, and in line with the affect regulatory explanation, the interaction of these two factors had a positive impact on purchase likelihood. In other words, when the deadline was already exceeded by a relatively greater amount, the presence of high consequences resulted in a greater tendency to engage in the unanticipated goal. Neither individual differences related to punctuality nor tendency to be late impacted this result.

[5] This variable was mean centered in line with Muller, Judd, and Yzerbyt (2005)

TABLE 16: SECOND MEDIATION ANALYSIS ASSESSING THE RELATIONSHIP BETWEEN PREDICOR VARIABLES AND BEHAVIORAL LIKELIHOOD

Predictor	*β*	*t*(109)	*p*-value
(Constant)	1.69	1.17	.25
Consequence*	-2.48	-4.87	.00
Distance*	-.65	-1.28	.21
Consequence x Distance*	1.51	2.05	.04
Punctuality*	-.09	-.30	.77
Lateness*	-.03	-.12	.90

While the first two regressions demonstrated the moderating effect of Consequence and Distance on both the outcome variable (i.e., negative affect) and the proposed mediator (i.e., likelihood of engaging in the alternative goal) a third and more comprehensive regression was conducted that, considered in conjunction with the previous analysis, allows for interpretation of the proposed mediation. More specifically, if the likelihood of engaging in the alternative goal mediates the relationship between the interaction of Consequence and Distance and negative affect (see figure 4, paths a and c), then the impact of this moderation should diminish when the mediator is included in the regression analysis. Along these lines, the comprehensive model evaluated the impact of Consequence, Distance, their interaction, as well as likelihood of engaging in the alternative goal and the interaction of this likelihood and Consequence on negative affect. Punctuality and Lateness were included as covariates. As predicted, results (see table 17) revealed that Likelihood impacted the degree of anticipated negative affect, such that those individuals who reported a greater likelihood of engaging in the anticipated goal reported lower levels of negative affect. Further, the magnitude of the interactive effect of Consequence and Distance was reduced when the mediator variable was included in the model [β = - 1.09, $t(93) = -2.37$, $p < .05$ vs. β = - .77, $t(106) = -1.89$, $p > .05$]. While full

mediation would predict that the role interaction coefficient would be non-significant in the comprehensive model, these results provide evidence that the likelihood of engaging in the alternative goal, at least in part, mediates the relationship between the interaction of the manipulated variables and anticipated negative affect.

TABLE 17: OVERALL MEDIATION ANALYSIS ASSESSING THE RELATIONSHIP BETWEEN PREDICOR VARIABLES, PROPOSED MEDIATOR, AND ANTICIPATED NEGATIVE AFFECT

Predictor	*β*	*t*(106)	*p*-value
(Constant)	-.20	-.26	.80
Consequence*	.66	2.15	.03
Distance*	.45	1.60	.11
Consequence x Distance*	-.77	-1.89	.06
Punctuality*	.33	2.05	.04
Lateness*	.40	3.57	.00
Likelihood	-.11	-1.98	.05
Likelihood x Consequence	.11	2.13	.04

In summary, the three-stage regression analysis provides evidence for mediated moderation. The partial effect of temporal distance from the deadline (i.e., Distance) on the outcome (i.e., negative affect) varied in accordance with the moderator (i.e., Consequence), as exhibited by the significant effect of the Likelihood by Distance interaction on negative affect (i.e., the first regression equation). The second two equations demonstrate the mediation process by which this overall moderation of the treatment effect occurs. The fact that the Consequence by Distance interaction resulted in an increased likelihood of engaging in the alternative goal (i.e., the second regression equation), and that its effect on negative affect is substantially reduced when purchase likelihood is considered (i.e., the third regression equation), provides evidence that engaging in the alternative goal acts as a means of reducing negative affect when an individual is late and is likely to incur consequences for missing the deadline. While the

significant interaction of the mediator variable and Consequence suggests that the role of the mediator might also be impacted by consequence (i.e., moderated mediation; see Muller, Judd, and Yzerbyt 2005), the failure of Distance to reach significance when purchase likelihood is regressed against the predictor variables (i.e., the second regression equation) does not provide support for this contention.

To further support the H3 prediction that engaging in the alternative goal acts as means of affect regulation, and to further explore the contention of H1 that prior findings are due to processes of goal switching and prioritization, analyses were conducted to assess the reasons underlying the decision to engaging in the unanticipated goal. Along these lines, differences in direct measures of affect regulation, goal prioritization, and goal switching were evaluated based on purchase likelihood.

6.2.2 Direct Measures of Goal-Directed Behavior as a Means of Affect Regulation

To further evaluate the process underlying prior findings, analyses were conducted to assess between-group differences in the scores for the items which directly assessed affect regulation, goal prioritization, and goal switching (see appendix C). A median split on Likelihood was used to categorize individuals as either low or high in terms of their likelihood to engage in the alternative goal. Group comparisons on the five-item affect regulation scale (Regulation; see appendix C) revealed that compared to those individuals who were less likely to engage in the alternative goal, individuals with a higher reported likelihood viewed this action as a means of restoring negative affect generated from the manipulated scenario factors [$M = 4.26$, $SD = 1.19$ vs. $M = 3.24$, $SD = 1.31$; $t(115) = 4.40$, $p < .001$]. This supports the results of the mediation analyses to show that engaging in the alternative goal acts as a means of affect regulation.

Further, differences in the goal prioritization items (Priority 1 through Priority 4; see appendix C) reveal that individuals with a relatively higher score on the Likelihood variable were more likely to place priority on the unanticipated goal of purchasing the beverage. Relative to participants who were less likely to engage in the unanticipated goal, individuals with a high Likelihood score indicated that they considered purchasing the beverage to be their primary goal [Priority 3: $M = 4.47$, $SD = 1.83$ vs. $M = 2.56$, $SD = 1.63$; $t(119) = 6.07$, $p < .001$] while class was their secondary goal [Priority 2: $M = 4.16$, $SD = 1.83$ vs. $M = 3.13$, $SD = 1.70$; $t(119) = 3.22$, $p < .01$]. On the other hand, relative to those who were likely to purchase the beverage, participants who were less likely to do so exhibited the opposite pattern; on time class arrival was their primary goal [Priority 1: $M = 5.06$, $SD = 1.85$ vs. $M = 3.68$, $SD = 1.66$; $t(119) = 4.29$, $p < .001$] while purchasing the beverage was a secondary priority [Priority 4: $M = 4.34$, $SD = 1.95$ vs. $M = 3.23$, $SD = 1.82$; $t(119) = 3.24$, $p < .01$].

Finally, analysis of the goal switching items (Switch 1 and Switch 2; see appendix C) provides support for the contention that goal switching, rather that disengagement, underlies the observed findings. Compared to individuals with low Likelihood scores, individuals who were more likely to engage in the unanticipated goal indicated that acquiring the beverage was likely to take precedence over the anticipated goal only after they had exceeded its deadline [Switch 1: $M = 5.33$, $SD = 1.91$ vs. $M = 4.20$, $SD = 2.15$; $t(119) = 3.04$, $p < .01$]. Once the deadline had been exceeded, individuals with a higher likelihood of engaging in the alternative goal indicated that on time class arrival was less important, relative to those individuals who were less likely to switch their efforts from the anticipated goal to the unanticipated goal [Switch 2: $M = 4.79$, $SD = 2.04$ vs. $M =$

4.16, SD = 2.10; $t(119) = 1.68$, $p < .10$], although this difference was only marginally significant.

6.3 DISCUSSION

Study 2 findings replicate study 1 results related to the likelihood of engaging in an unanticipated goal, in addition to providing support for the proposed affect regulatory processes underlying prior findings. Both mediation analyses, as well as the more direct measures of affect regulation, indicate that engaging in an alternative goal can act as a means of reducing anticipated negative affect. Not only did those individuals who had exceeded the deadline by a greater amount report an increased likelihood to purchase the beverage when the consequences for missing the deadline were high, but they also reported a lower degree of negative affect than other study participants as a result of engaging in the alternative goal.

This finding is consistent with prior research that suggests that individuals experience negative affect when facing negative feedback regarding goal progress (Wrosch, Scheier, Carver, and Schulz 2003). This feeling is presumably accentuated for outcomes associated with negative incentives (Wicker et al. 1994) and is, in turn, likely to result in activities aimed at reducing negative affect (Connolly, Ordóñez, and Coughlan 1997). While the group differences in response to the direct measures of affect regulation provide evidence that engaging in the alternative goal served the purpose of remedying a negative affective state, this finding rests on the assumption that engaging in the alternative goal (i.e., purchasing the beverage) generated sufficient positive affect to remedy this state. The next study builds upon this finding by considering the likelihood of engaging in the unanticipated goal at a series of quantifiable values.

In addition to the process measures assessing affect regulation, the items assessing goal prioritization and switching suggest that those who were likely to engage in the unanticipated goal post-deadline were more likely to do so due to changes in the prioritization of the conflicting goals. These individuals reported that once they were late, the anticipated goal became a lower priority while the unanticipated goal was replaced as their primary pursuit.

While study 2 considered the moderation of temporal distance and consequences based on the unanticipated finding from study 1 that individuals were more likely to exhibit an increasing post-deadline likelihood of engaging in the alternative goal when there were consequences associated with missing a deadline, it did not consider the role of the relative importance of the conflicting goals. Study 1 findings found a similar post-deadline behavioral pattern when the anticipated goal was of higher importance, relative to the unanticipated goal. While prior research (e.g., Klinger 1987), as well as study 2 findings related to the presence of consequences, suggests that variations in goal switching behavior when goals differ in terms of relative importance might also be due to processes of affect regulation, future research might empirically investigate this proposition.

CHAPTER 7: STUDY 3

The previous studies have shown that the likelihood of behaving in line with an unanticipated goal, relative to an anticipated goal, declines as one approaches a temporal deadline and increases as one moves away from that point. Further, both the factors shown to accentuate this effect and the study 2 finding that negative affect is reduced when the likelihood of engaging in the alternative goal is high lend support to the contention that processes of affect regulation contribute to this observed goal switching. This conclusion, however, rests on the assumption that the activity defined as the unanticipated goal (i.e., purchasing one's favorite beverage) generates sufficient positive feelings to compensate for the negative affect generated by missing a deadline and, in some instances, incurring a penalty for doing so.

Since the value of purchasing one's favorite beverage is variable and likely to be dependant on both individual and contextual factors (e.g., thirst, energy level, temperature of the classroom, etc.), study 3 scenarios include a manipulation that quantifies the value associated with the unanticipated goal. Specifically, study 3 scenarios consider a goal that, by itself, is not likely to generate positive affect – completing a marketing research survey. Engagement in the unanticipated goal is linked to different levels of financial compensation as the valuation of a sum of money is less dependent on contextual factors than the valuation of other resources (Okada and Hoch 2004). Along these lines, study 3 assesses participants' likelihood of engaging in the unanticipated goal when different sums of money are offered as compensation, with the objective of replicating prior findings when a quantifiable value is assigned to the associated pursuit.

Further, this study allows for the assessment of changes in goal switching behavior based upon the level of compensation provided in return for engaging in the anticipated goal. Along these lines, I predict that there will be a main effect of compensation level, whereby individuals exhibit a greater likelihood of engaging in the unanticipated goal when they are offered relatively higher levels of pay. Differences in this pattern based on temporal distance from the deadline and the association of the deadline with consequences will also be explored.

7.1 METHOD

7.1.1 Participants

One hundred and thirty-eight undergraduate students (88 females and 50 males) participated in the study in partial fulfillment of course requirements. The average age of the participants was 24.21, ranging from 19 to 44 years.

7.1.2 Design

Similar to the first two studies, the third study utilized hypothetical scenarios based on deadline-constrained situations. Participants were presented with a scenario in which they were asked to imagine that they were on their way to class (anticipated goal) when they were approached by a graduate student who asks if they would mind filling out a survey (unanticipated goal). The level of compensation (Level) was varied within subjects by asking respondents to indicate their likelihood of engaging in the alternative goal (i.e., filling out the survey) at a series of compensation levels ranging from no compensation to $20.

As in the previous study, temporal distance (Distance) was manipulated between subjects, such that participants were told that they estimated that they would arrive on

time (low distance) or that they were already ten minutes late (high distance) for the class prior to encountering the opportunity to engage in the unanticipated goal. Further, they were told that since engaging in the unanticipated goal would take approximately five minutes, they would be either late or later in accordance with their assignment to the low or high Distance condition, respectively.

The consequences associated with missing the deadline (Consequence) were also manipulated between subjects in a manner identical to that used in study 1 and study 2. Specifically, individuals were told that late class arrival either resulted in being marked down late on the class record (high consequence) or that no penalty was assessed (low consequence). Study 1 pretest results, which utilized students from the same population from which study 3 participants were drawn, indicated that individuals exposed to the scenario in which the deadline associated with high consequences rated the consequences as higher than those who viewed the scenario in which no penalty existed [$M = 4.00$, $SD = 1.17$ vs. $M = 3.10$, $SD = 1.33$; $F(1,36) = 5.17$, $p < .05$].

In sum, this study follows a 2 (Distance: low vs. high) x 2 (Consequence: low vs. high) design with Level as a within subjects factor. Subjects were randomly assigned to one of the four conditions defined by the between subjects factors.

7.1.3 Procedure

After reading the scenario, participants were asked how likely they were to engage in the unanticipated goal (i.e., filling out the survey) at a series of compensation levels by circling the appropriate response on a seven-point scale (1 = “would definitely not fill out survey”, 7 = “would definitely fill out survey”). Respondents indicated their

behavioral likelihood at a total of twenty-one different compensation levels, ranging from not being paid to being paid $20 (see appendix D).

To assess the effectiveness of the manipulation of temporal distance, study participants were next asked to indicate the extent to which they considered themselves to be late to class in the scenario on a seven-point scale (1 = "not at all late", 7 = "very late"). They also indicated the point at which they would be likely to disengage from the pursuit of the anticipated goal by responding to the question "Is there a time beyond which you would decide that it is too late to attend class and you would simply not go?" Responses were elicited using an open-ended measure, which asked participants to "please write down how many minutes late that would be _____." This item helped to ensure that the results are driven by processes of goal prioritization, rather than permanent disengagement from one goal for the sake of the other.

Following approximately 20 minutes of unrelated intervening material, participants provided responses to time-related individual difference items measuring punctuality (Punctuality: *Cronbach's alpha* = 0.79), tendency to be late (Lateness: *Cronbach's alpha* = 0.73), perceived busyness (Busyness: *Cronbach's alpha* = 0.76), and importance of their own schedule and commitments relative to those of others (Own Commitments: *Cronbach's alpha* = 0.81; see appendix B). Demographic information assessing age (Age), number of years lived in the United States (US Years), gender (Gender), student status (Student), employment (Employment), and ethnicity (Ethnicity) was also collected.

7.2 ANALYSIS AND RESULTS

Prior to testing the hypotheses, several analyses were conducted to ensure that respondents perceived the manipulations as intended. First, perceptions of lateness were compared to assess the effectiveness of the temporal distance manipulation. Results indicated that those who were told that they were 10 minutes late prior to encountering the opportunity to engage in the unanticipated goal considered themselves to be later than those who were told that they were on time [M = 5.58, SD = 1.38 vs. M = 3.51, SD = 1.88; $t(138) = 7.46$, $p < .001$]. In addition, the points in time at which individuals intended to abandon the anticipated goal were assessed to ensure that participants perceived the scenarios as opportunities for goal prioritization, rather than disengagement from the anticipated goal. For those individuals who indicated that there was a point at which they would be likely to disengage from pursuit of the anticipated goal, this behavior occurred at a point significantly greater than the maximum number of minutes post-deadline that an individual could expect to be based on the manipulation of lateness and the option to fill out the survey [M = 35.55, SD = 17.74 vs. 15 minutes after deadline; $t(128) = 13.16$, $p < .001$].

The primary study predictions were assessed through a repeated measures ANOVA. The between subjects factors, distance from the temporal and consequence for missing the deadline, were included with the within subjects factor, compensation level, in the analysis. The four measured time-related individual differences and demographic indicators were included as covariates in the model. The between subjects effects of Consequence and Distance, within subjects effect of Level, as well as the interactions both among and between these two sets of variables were assessed.

7.2.1 Between Subjects Effects

Tests of the between subjects effects, which assess group differences across compensation level, were conducted to assess whether prior findings with regard to changes in behavioral likelihood in relation to a temporal deadline replicate when a quantifiable value is assigned to the unanticipated goal. ANOVA results revealed a main effect of Consequence across compensation levels; compared to individuals exposed to a scenario in which consequences were low, those facing higher consequences for missing the deadline were less likely to engage in the unanticipated goal [M = 4.48, SD = 1.97 vs. M = 3.31, SD = 1.92; $F(1,116) = 14.02$, $p < .001$]. Although there was no significant difference between the responses of individuals exposed to scenarios which varied in terms of distance from the deadline [Low Distance: M = 3.94, SD = 2.23 vs. High Distance: M = 3.80, SD = 1.82; F < 1], there was an interaction between Consequence and Distance [$F(1,116) = 8.06$, $p <.01$]. Follow-up analyses indicate that when the consequences associated with the deadline were relatively low, individuals who were exposed to a scenario in which they were further from the deadline were less likely to engage in the alternative goal compared to those who were closer to meeting the deadline [M = 4.00, SD = 1.86 vs. M = 4.96, SD = 1.90; $F(1,116) = 5.29$, $p <.05$]. Alternatively, when consequences were relatively high, individuals were more likely to engage in the alternative goal when they were further from the deadline compared to those who were closer to the deadline [M = 3.63, SD = 1.77 vs. M = 2.95, SD = 2.01; $F(1,116) = 3.13$, $p <.10$]. In other words, whereas lateness resulted in an increase in behavior directed towards the anticipated goal when the penalty for missing the deadline was lower, it increased behavior directed towards the unanticipated goal when the penalty was higher.

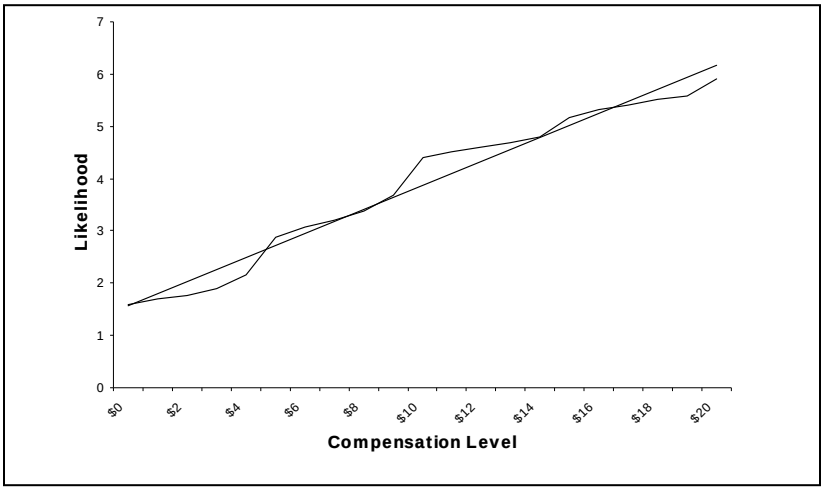
These findings are in line with those of study 1 and study 2. There were no significant between subjects effects for the time-related individual difference or demographic items.

7.2.2 Within Subjects Effects

Tests of the within subjects effects were used to assess the willingness of individuals to engage in the unanticipated goal based at varying levels of compensation. Prior to evaluating the within subjects effects of the repeated factor, Mauchly's test was conducted to test the assumption that the error covariance matrix of the transformed dependent variable Level is proportional to the identity matrix. Results indicated that the assumption of sphericity had been violated [χ^2 (209, N=138) = 4008.03, p < .000]. In turn, the degrees of freedom for subsequent tests of the main effect of Level, as well as its interaction with other variables, were corrected using the Greenhouse-Geisser estimates of spericity (ε= .14; Field 2000).

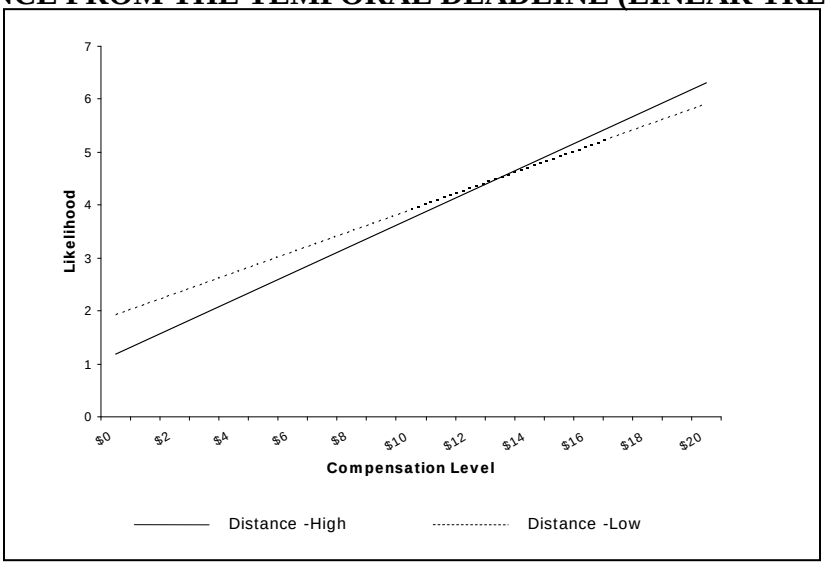
Tests of the within subjects effects were conducted for Level, as well as the interaction of Level with Consequence, Distance, and the three-way interaction of these variables. In addition, within subjects contrasts were used to assess the pattern of significant repeated measure trends, which are defined in terms of polynomials of varying degrees (Winer 1971). Results revealed a main effect of Level [F(2.88, 334.52) = 3.65, p <.05] and the within subjects contrasts provide evidence for a linear relationship between the repeated measure and likelihood of engaging in the alternative goal [F(1,116) = 6.21, p <.05]. As expected, individuals exhibited an increasing likelihood of engaging in the alternative goal as the compensation for doing so increased (see figure 5).

FIGURE 5: THE EFFECT OF COMPENSATION LEVEL ON LIKELIHOOD OF ENGAGING IN THE UNATNICIPATED GOAL (MEAN VALUES AND LINEAR TREND)



Further, this relationship varied based on participants' distance from the deadline as indicated by the interaction between Level and Distance [$F(2.88, 334.52) = 3.48$, $p < .05$]. This trend was also linear [$F(1,116) = 6..70$, $p < .05$; see figure 6].

FIGURE 6: THE EFFECT OF COMPENSATION LEVEL ON LIKELIHOOD OF ENGAGING IN THE UNANTICIPATED GOAL FOR HIGH VS. LOW DISTANCE FROM THE TEMPORAL DEADLINE (LINEAR TREND)



Pairwise comparisons of the high and low distance conditions at each level of compensation using the Sidak adjustment for multiple comparisons revealed significant

differences between the groups at low levels of pay (i.e., no compensation through payment of $3) and, at least to some extent, at the maximum level of pay (i.e., payment of $20; see table 18). While those who were closer to the deadline were more likely to engage in the alternative goal at lower compensation levels than those who had already exceeded the deadline, individuals who had already missed the deadline when they were provided with the opportunity to engage in the unanticipated goal were more likely to do so for a higher level of compensation.

TABLE 18: PAIRWISE COMPARISON RESULTS FOR THE HIGH AND LOW DISTANCE CONDITIONS AT EACH LEVEL OF COMPENSATION

Compensation Level	$F(1,116)$	p-value
no compensation	11.845	.001
$1	9.298	.003
$2	9.187	.003
$3	5.386	.022
$4	1.041	.310
$5	.204	.652
$6	.158	.691
$7	.363	.548
$8	.255	.615
$9	.112	.738
$10	.109	.742
$11	.248	.620
$12	.236	.628
$13	.038	.846
$14	.004	.950
$15	.191	.663
$16	.555	.458
$17	.936	.335
$18	1.357	.246
$19	1.374	.244
$20	2.790	.098

There was no significant interaction between the association of the deadline with consequences and level of compensation [$F(2.88, 334.52) = 1.24$, $p > .20$], nor was there a significant three-way interaction between Consequence, Distance, and Level [$F(2.88, 334.52) = 0.38$, $p > .20$].

Although no predictions were made regarding the effect of demographic indicators, participants' reported student status was a significant covariate in the model [$F(2.88, 334.52) = 5.41$, $p < .01$], such that full time students were more likely to engage in the alternative goal than part time students as the level of compensation increased. Further, the number of years that respondents reported living in the United States had a marginally significant effect on the relationship between compensation level and the likelihood of engaging in the alternative goal [$F(2.88, 334.52) = 2.66$, $p < .10$], such that individuals living in the US for a longer period of time were more likely to engage in the alternative goal than those living in the US for a relatively shorter period as the level of compensation increased. Results indicated that the covariate effects of student status and number of years living in the US were linear [$F(1,116) = 7.41$, $p < .01$ and $F(1,116) = 4.17$, $p < .05$, respectively]. No other covariates (i.e., other demographic measures or time-related individual differences) impacted the relationship between compensation level and likelihood of engaging in the alternative goal.

7.3 DISCUSSION

Study findings related to the likelihood of engaging in the unanticipated goal when the value derived from the unanticipated goal can be quantified replicate those of prior studies. Analysis of the between subjects effects demonstrated that when the consequences associated with the deadline were relatively low, individuals who were exposed to a scenario in which they were further from the deadline were less likely to engage in the alternative goal than those who were closer to the deadline; on the other hand, these individuals were more likely to engage in the alternative goal, relative to those who were closer to the deadline, when the scenario described relatively high

consequences for late arrival. In other words, whereas exceeding the deadline by a greater amount resulted in increased behavior directed towards the anticipated goal when the consequences for missing the deadline were lower, it increased behavior directed towards the unanticipated goal when high consequences were higher. This effect occurred across compensation level.

Further, analysis of the within subjects effects revealed a main effect of compensation level, such that individuals were more likely to engage in the unanticipated goal for higher values of compensation. Interestingly, it appears that the value derived from the unanticipated goal becomes more influential in determining goal-directed behavior when individuals have exceeded the deadline by a greater amount. Compared to individuals who were late prior to the opportunity to engage in the alternative goal, those who still had the opportunity to be on time were more likely to engage in the alternative goal at lower compensation levels; on the other hand, individuals who had already missed the deadline when they were provided with the opportunity to engage in the unanticipated goal were more likely to do so at higher compensation levels. This provides some evidence that these individuals seek to derive more value from engaging in the unanticipated goal, perhaps due to their desire to remedy a greater negative affective state. Caution must be given to this interpretation, however, given the marginal significance of some of the interactive effects.

While the objective of the manipulation was to vary the value derived from the unanticipated goal in order to lessen the effect of contextual factors, this procedure does not eliminate all subjectivity in the valuation process. While individuals are presumably able to make objective relative value judgments regarding the amounts of compensation

(e.g., $20 is a higher than $10), the value of each individual level might be more subjective. For instance, an individual who just lost their job is likely to assign more value to a set sum of money than one who just received a large monetary bonus from their employer. It is possible that this rationale underlies the unexpected finding that the effect of compensation was accentuated for students who attend class full time, relative to part time students. It is possible that since these individuals are likely to have fewer hours to devote to work for pay, they value being compensated at relatively high levels to a greater extent than students who have more discretionary time. Interestingly, however, the effect of compensation did not vary by reported employment status.

Although there were not significant findings with regard to the interaction between compensation level and the association of the deadline with consequences, or the three-way interaction between these factors and distance from the deadline, it is possible that this is due, at least in part, to the overwhelming impact of compensation level. Since the likelihood of engaging in the alternative goal approaches the maximum value as compensation level increases, it is possible that the effect of compensation overwhelms potential interactive effects.

CHAPTER 8: CONCLUSIONS

In three studies, the present work demonstrates the effect of temporal distance to and from a deadline on the decision to engage in behavior directed towards an anticipated versus unanticipated goal, factors that moderate this effect, as well as the process that underlies the findings. Across studies, the likelihood of engaging in an unanticipated goal declined as individuals approached its deadline and increased once this point had been passed. Rather than attenuating this effect, this pattern of behavior was accentuated when the deadline was associated with relatively high consequences and when the anticipated goal was of higher importance than the unanticipated goal. Importantly, study results indicate that the goal prioritization and switching that underlies these findings can be attributed to processes of affect regulation, whereby individuals attempt to remedy anticipated negative affect by temporarily switching their effort from the anticipated goal, which is constrained in time, to their unanticipated pursuit.

Although time scarcity is identified as a major source of goal conflict (Carver and Scheier 1998), there is a dearth of research exploring the manner in which individuals manage multiple pursuits in such situations. Therefore, these findings contribute to extant time and goal literature that suggests that individuals deal with conflicting goals by prioritizing and acting in accordance with the activity that is assigned the highest value (e.g., Denton 1994, Dodge et al. 1989). While goal literature identifies disengagement, or the abandonment of goals and associated effort as a means of managing conflict (e.g., Klinger 1975; Wrosch, Scheier, Carver, and Schulz 2003), the present investigation of goal switching demonstrates a more temporary process of disengagement, rather than the complete relinquishment of a goal. This sheds light on the process by which individuals

make choices between alternative goals when time is constrained and, as such, represents a preliminary step in understanding the prioritization of and decisions related to progress towards alternative pursuits.

Further, this work builds upon extant literature that explores conditions in which an individual is approaching a goal state to include situations where an individual is moving away from her behavioral reference point (i.e., post-deadline). In addition to demonstrating a "what the hell effect" with regard to time constraints, this work also sheds light on the process underlying this effect. Consistent with prior theorizing on the "what the hell" effect, this work demonstrates that individuals differentially value goals once they have exhibited behavior that is inconsistent with achievement (Cohcran and Tesser 1996; Polivy 1976). Yet since individuals are not permanently relinquishing their goal, but rather temporarily switching to an alternative pursuit, they are not able to completely abandon the negative affect that accompanies a failure to behave in line with their goal. Thus, as demonstrated in this work, a desire to repair one's negative affective state impacts subsequent behavior.

Given the pervasive influence of time scarcity on decision making (Deighton, Nicosia, and Wind 1983; Gross 1987,) as well as the impact of goal achievement on overall well-being (Griffith and Graham 2004), this research carries implications for consumers in terms of the tradeoffs they make between multiple, often conflicting, pursuits and for the manner in which marketers manage time-related consumption opportunities. Practically speaking, these findings demonstrates the beneficial influence of deadlines; in line with the goal-gradient hypothesis, individuals are more likely to exhibit goal-consistent behavior when they are approaching a deadline, which serves as a

behavioral reference point. On the other hand, deadlines appear to be detrimental once they have been missed; rather than attempting to minimize the time by which a deadline is exceeded, study results illustrate the tendency to switch behavior towards available pursuits, thus increasing lateness. This carries implications for consumer decisions resulting from conflicting goals, particularly options that are inhibitory in nature due to scarce time resources.

In the consumption domain, many decision-making scenarios are constrained in time. For example, a consumer who is late for a scheduled service encounter (e.g., a 4:00 p.m. tennis lesson) might opt to engage in other activities (e.g., pick up the dry cleaning) rather than attempting to arrive as close as possible to the scheduled time. Alternatively, similar behavior might also occur on the other side of the service encounter, such that the provider misses a deadline. This, in turn, has the potential to impact future scheduling as well as the time allocated to the present service encounter. Considered in conjunction with the role of consequences, or negative incentives associated with goal failure, this also allows insight into the policies that might attenuate, rather than accentuate, this effect.

In their popular book, *Freakonomics*, Levitt and Dubner (2005) discuss the role of negative incentives in reducing late behavior. Specifically, they cite a field study conducted by economists at a daycare center in Haifa, Israel in which fines were imposed when children were picked up more than ten minutes after the 4 p.m. deadline. Rather than declining, however, the number of late arrivals doubled. The economists surmise that this penalty allowed parents to, in effect, buy off their guilt for a mere $3 late charge. In other words, this payment served as a means of remedying negative affect associated

with late arrival. While they predict that raising the amount of the fine might serve to reduce late arrivals, their findings, and those of this study, suggest that it may be the mere imposition of the fine, as opposed to the amount of the fine, that impacts late behavior. Given the trend among firms, such as movie rental companies, to drop fines for late fees (Richardson 2006), it would be interesting to consider behavioral responses to graded penalties (e.g., a fine of $3 versus a fine of $10) to investigate the relative contribution of penalty imposition and penalty magnitude.

The study findings related to the presence of consequences and relative goal importance also suggest that once a deadline has been exceeded, individuals are more likely to postpone both more important pursuits and those that are associated with high consequences. Although the relative long-term cost of late class arrival might be low, future research might consider other instances of goal conflict for which the long term costs of delaying a time constrained goal are high. For instance, if an individual misses their appointment for an important medical appointment, such as a prostate exam or mammogram, it is possible that other pursuits will be given priority and that the missed appointment will be additionally delayed. Such instances carry important implications for health-related consumer decisions, as well as other related to delayed benefits.

In terms of the various factors associated with conflicting goals, this research varied the consequences associated with the deadline, the parties implicated by failure to meet the deadline, and the relative importance of the conflicting goals. In addition to these factors, extant goal literature provides a number of goal classification schemes. For instance, goals can vary in terms of the party assigning the goal (i.e., assigned versus self-set goals; Locke and Latham 1990), difficulty level (i.e., desirability and feasibility;

Gollwitzer 1990; Locke and Latham 1990), level of abstraction (i.e., abstract versus concrete outcomes; Vallacher and Wegner 1987), and goal outcome (i.e., approaching positive outcomes versus avoiding negative ones; Wicker et al. 1994), to name only a few. Along these lines, future research might consider the impact of changing the manner in which conflicting goals are framed. For instance, prior research has shown that anticipated negative affect in response to goals aimed at avoiding negative outcomes (e.g., striving to be on time to avoid having points from one's attendance grade deducted) has a greater impact than anticipated positive affect in response to approaching goals associated with positive outcomes (e.g., striving to be on time in order to achieve extra credit) on goal-directed behavioral intentions (Wicker et al. 1994). Based on this, simply reframing the anticipated goal as an approach goal might alter the observed study results. Additional work might consider this, as well as other goal classification schemes, to consider whether the manner in which goals are defined or conceptualized changes goal prioritization and switching behavior.

In addition, although the results from this work did not demonstrate a consistent impact of implicating others in failing to meet the deadline on goal directed behavior, future research might consider additional differences in self-other relationships that might impact goal switching processes. While prior research has suggested that the degree of obligation towards others positively impacts the likelihood of meeting a temporal deadline (Hirschman 1987), other work has shown that keeping others waiting can serve as a means of asserting status (Greenberg 1989). Along these lines, the role of others might vary based on the desire to assert power in the relationship (i.e., meeting your subordinate versus meeting your boss). Future research might consider these, as well as

other factors, to explore more complex relationships between the individual and the parties implicated by failing to meet a temporal deadline.

Along similar lines, the present research considers goals that conflict in time and, as such, explores one type of distance – temporal distance – on goal-directed behavior. This builds on prior research that demonstrates that perceptions of goal progress can impact goal-directed behavior to demonstrate the effect of the temporal element of psychological distance on goal-switching patterns. In addition to time, goal progress might be measured by other forms of distance, such as spatial distance (e.g., Heath et al. 1999; Fujita et al. 2006) or social distance (e.g., Akerlof 1997). For instance, a runner with a goal of completing a race would likely estimate goal progress on the amount of distance between her current position and the finish line and an individual with a goal of joining a desirable social circle would evaluate proximity to their goal by the degree of closeness to relevant others. Along these lines, future research might consider alternative forms of psychological distance by which individuals evaluate goal progress and their effect on goal switching both before and after reaching the behavioral reference point.

Further, the present work demonstrates support for an affect regulatory account of goal switching behavior. Additional research might consider whether the act of switching to an alternative goal provides sufficient positive affect to account for the anticipated negative affect that results from failing to reach the deadline. If the negative affective state is great enough, individuals may seek additional sources of positive affect and may, in turn, vary processes of attribute valuation and choice between objects that satisfy their unanticipated goal. Future research might consider, for instance, whether the individual who elects to purchase coffee after missing the start of class is also likely to make a more

affect-laden choice relative to their usual order (e.g., a double mocha latte with whipped cream vs. a coffee with skim milk) from the café menu. This would shed additional light on the affect regulatory process by assessing whether it is the act of engaging in the alternative goal, the outcome of that action, or a combination of the two that works to repair positive affect.

In sum, this work presents an initial step in exploring the allocation of time resources when goals conflict due to the presence of a time constraint. While I have identified several directions for future research that emanate from the present work, this list is by no means exhaustive. Due to the nature of time and the dynamics of goal switching behavior, I believe that there is much opportunity for additional research. Considering the role of goal achievement in the daily life of individuals and its importance as it relates to well-being, I regard this research stream to be of substantial importance for consumers and marketers, alike.

APPENDIX A:
STUDY 1 AND STUDY 2 SCENARIOS

Scenario 1 (high importance of anticipated goal, self implicated, low consequence): You are headed for your marketing class, which starts at 2:00 p.m.. You are craving a cup of coffee (note: if you don't drink coffee, imagine that you are craving your favorite beverage). You estimate it would take about 2 minutes to buy the coffee and make it to class. If you don't buy the coffee, you will be at class any second. There are no penalties for arriving late to class; there are no incentives for arriving early.

What is the likelihood that you buy the coffee or preferred beverage (it will take approximately 2 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

	Would definitely **NOT** Buy						Would definitely Buy
You are 20 minutes early	1	2	3	4	5	6	7
You are 19 minutes early	1	2	3	4	5	6	7
You are 18 minutes early	1	2	3	4	5	6	7
You are 17 minutes early	1	2	3	4	5	6	7
You are 16 minutes early	1	2	3	4	5	6	7
You are 15 minutes early	1	2	3	4	5	6	7
You are 14 minutes early	1	2	3	4	5	6	7
You are 13 minutes early	1	2	3	4	5	6	7
You are 12 minutes early	1	2	3	4	5	6	7
You are 11 minutes early	1	2	3	4	5	6	7
You are 10 minutes early	1	2	3	4	5	6	7
You are 9 minutes early	1	2	3	4	5	6	7
You are 8 minutes early	1	2	3	4	5	6	7
You are 7 minutes early	1	2	3	4	5	6	7
You are 6 minutes early	1	2	3	4	5	6	7
You are 5 minutes early	1	2	3	4	5	6	7
You are 4 minutes early	1	2	3	4	5	6	7
You are 3 minutes early	1	2	3	4	5	6	7
You are 2 minutes early	1	2	3	4	5	6	7
You are 1 minute early	1	2	3	4	5	6	7
It is 2:00 exactly	1	2	3	4	5	6	7
You are already 1 minute late	1	2	3	4	5	6	7
You are already 2 minutes late	1	2	3	4	5	6	7
You are already 3 minutes late	1	2	3	4	5	6	7
You are already 4 minutes late	1	2	3	4	5	6	7
You are already 5 minutes late	1	2	3	4	5	6	7
You are already 6 minutes late	1	2	3	4	5	6	7
You are already 7 minutes late	1	2	3	4	5	6	7
You are already 8 minutes late	1	2	3	4	5	6	7
You are already 9 minutes late	1	2	3	4	5	6	7
You are already 10 minutes late	1	2	3	4	5	6	7
You are already 11 minutes late	1	2	3	4	5	6	7
You are already 12 minutes late	1	2	3	4	5	6	7
You are already 13 minutes late	1	2	3	4	5	6	7
You are already 14 minutes late	1	2	3	4	5	6	7
You are already 15 minutes late	1	2	3	4	5	6	7
You are already 16 minutes late	1	2	3	4	5	6	7
You are already 17 minutes late	1	2	3	4	5	6	7
You are already 18 minutes late	1	2	3	4	5	6	7
You are already 19 minutes late	1	2	3	4	5	6	7
You are already 20 minutes late	1	2	3	4	5	6	7

People have different ideas about what defines "late." For example, one person might think that 1 minute late to class is "late" while another person might consider being one minute late to class "on time." Please go back to the choices listed above and **circle the time in the lefthand column that represents what you consider** "**late to class**."

Is there a time beyond which you would decide that it is too late to attend class and you would simply not go?
If so, please write down how many minutes late that would be: _____.

Scenario 1 (high importance of anticipated goal, self implicated, high consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You are craving a cup of coffee (note: if you don't drink coffee, imagine that you are craving your favorite beverage). You estimate it would take about 2 minutes to buy the coffee and make it to class. If you don't buy the coffee, you will be at class any second. There is a penalty for arriving late to class – you will be marked down late on your class record; there are no incentives for arriving early.

What is the likelihood that you buy the coffee or preferred beverage (it will take approximately 2 minutes at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 1 (high importance of anticipated goal, others implicated, low consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You are craving a cup of coffee (note: if you don't drink coffee, imagine that you are craving your favorite beverage). You estimate it would take about 2 minutes to buy the coffee and make it to class. If you don't buy the coffee, you will be at class any second. Your team members are waiting for you to work on your project during the scheduled class. There are no penalties for arriving late to class; there are no incentives for arriving early.

What is the likelihood that you buy the coffee or preferred beverage (it will take approximately 2 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 1 (high importance of anticipated goal, others implicated, high consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You are craving a cup of coffee (note: if you don't drink coffee, imagine that you are craving your favorite beverage). You estimate it would take about 2 minutes to buy the coffee and make it to class. If you don't buy the coffee, you will be at class any second. Your team members are waiting for you to work on your project during the scheduled class. There is a penalty for arriving late to class – your entire team will be marked down late on the class record; there are no incentives for arriving early.

What is the likelihood that you buy the coffee or preferred beverage (it will take approximately 2 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 1 (low importance of anticipated goal, self implicated, low consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You realize that you forgot to drop of an assignment that is due today to a different professor. You estimate it would take about 2 minutes to drop off the assignment in your professor's mailbox and make it to class. If you don't drop off the assignment now you will be at class any second. There are no penalties for arriving late to class; there are no incentives for arriving early.

What is the likelihood that you drop off the assignment (it will take approximately 2 minutes) at each of the following times? Circle the appropriate responses.

Scenario 1 (low importance of anticipated goal, self implicated, high consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You realize that you forgot to drop of an assignment that is due today to a different professor. You estimate it would take about 2 minutes to drop off the assignment in your professor's mailbox and make it to class. If you don't drop off the assignment now you will be at class any second. There is a penalty for arriving late to class – you will be marked down late on your class record; there are no incentives for arriving early.

What is the likelihood that you drop off the assignment (it will take approximately 2 minutes) at each of the following times? Circle the appropriate responses.

Scenario 1 (low importance of anticipated goal, others implicated, low consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You realize that you forgot to drop of an assignment that is due today to a different professor. You estimate it would take about 2 minutes to drop off the assignment in your professor's mailbox and make it to class. If you don't drop off the assignment now you will be at class any second. Your team members are waiting for you to work on your project during the scheduled class. There are no penalties for arriving late to class; there are no incentives for arriving early.

What is the likelihood that you drop off the assignment (it will take approximately 2 minutes) at each of the following times? Circle the appropriate responses.

Scenario 1 (low importance of anticipated goal, others implicated, high consequence):
You are headed for your marketing class, which starts at 2:00 p.m.. You realize that you forgot to drop of an assignment that is due today to a different professor. You estimate it would take about 2 minutes to drop off the assignment in your professor's mailbox and make it to class. If you don't drop off the assignment now you will be at class any second. Your team members are waiting for you to work on your project during the scheduled class. There is a penalty for arriving late to class – your entire team will be marked down late on your class record; there are no incentives for arriving early.

What is the likelihood that you drop off the assignment (it will take approximately 2 minutes) at each of the following times? Circle the appropriate responses.

Scenario 2 (high importance of anticipated goal, self implicated, low consequence): You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your best friend calling to make the arrangements for the party you are going to this evening. You estimate it will take about 5 minutes to complete this call. There are no penalties for arriving late to the appointment; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

	Would definitely **NOT** Buy						Would definitely Buy
You are 20 minutes early	1	2	3	4	5	6	7
You are 19 minutes early	1	2	3	4	5	6	7
You are 18 minutes early	1	2	3	4	5	6	7
You are 17 minutes early	1	2	3	4	5	6	7
You are 16 minutes early	1	2	3	4	5	6	7
You are 15 minutes early	1	2	3	4	5	6	7
You are 14 minutes early	1	2	3	4	5	6	7
You are 13 minutes early	1	2	3	4	5	6	7
You are 12 minutes early	1	2	3	4	5	6	7
You are 11 minutes early	1	2	3	4	5	6	7
You are 10 minutes early	1	2	3	4	5	6	7
You are 9 minutes early	1	2	3	4	5	6	7
You are 8 minutes early	1	2	3	4	5	6	7
You are 7 minutes early	1	2	3	4	5	6	7
You are 6 minutes early	1	2	3	4	5	6	7
You are 5 minutes early	1	2	3	4	5	6	7
You are 4 minutes early	1	2	3	4	5	6	7
You are 3 minutes early	1	2	3	4	5	6	7
You are 2 minutes early	1	2	3	4	5	6	7
You are 1 minute early	1	2	3	4	5	6	7
It is 9:00 exactly	1	2	3	4	5	6	7
You are already 1 minute late	1	2	3	4	5	6	7
You are already 2 minutes late	1	2	3	4	5	6	7
You are already 3 minutes late	1	2	3	4	5	6	7
You are already 4 minutes late	1	2	3	4	5	6	7
You are already 5 minutes late	1	2	3	4	5	6	7
You are already 6 minutes late	1	2	3	4	5	6	7
You are already 7 minutes late	1	2	3	4	5	6	7
You are already 8 minutes late	1	2	3	4	5	6	7
You are already 9 minutes late	1	2	3	4	5	6	7
You are already 10 minutes late	1	2	3	4	5	6	7
You are already 11 minutes late	1	2	3	4	5	6	7
You are already 12 minutes late	1	2	3	4	5	6	7
You are already 13 minutes late	1	2	3	4	5	6	7
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You are already 15 minutes late	1	2	3	4	5	6	7
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You are already 18 minutes late	1	2	3	4	5	6	7
You are already 19 minutes late	1	2	3	4	5	6	7
You are already 20 minutes late	1	2	3	4	5	6	7

People have different ideas about what defines "late." For example, one person might think that 1 minute late to class is "late" while another person might consider being one minute late to class "on time." Please go back to the choices listed above and **circle the time in the lefthand column that represents what you consider** "**late to class**."

Is there a time beyond which you would decide that it is too late to attend class and you would simply not go?
If so, please write down how many minutes late that would be: _____.

Scenario 2 (high importance of anticipated goal, self implicated, high consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your best friend calling to make the arrangements for the party you are going to this evening. You estimate it will take about 5 minutes to complete this call. There is a penalty for arriving late to the appointment – the doctor will take his next appointment and yours will be pushed back to a later time; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 2 (high importance of anticipated goal, others implicated, low consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your best friend calling to make the arrangements for the party you are going to this evening. You estimate it will take about 5 minutes to complete this call. You are the first appointment of the day and the doctor is in his office waiting for you to arrive. There are no penalties for arriving late to the appointment; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 2 (high importance of anticipated goal, others implicated, high consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your best friend calling to make the arrangements for the party you are going to this evening. You estimate it will take about 5 minutes to complete this call. You are the first appointment of the day and the doctor is in his office waiting for you to arrive. There is a penalty for arriving late to the appointment – since your appointment will begin later than scheduled, everyone else's will be pushed back to a later time and the doctor will be off schedule; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 2 (equal importance of anticipated goal, self implicated, no consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your boss calling to make arrangements for a conference call to be held later this week. You estimate it will take about 5 minutes to complete this call. There are no penalties for arriving late to the appointment; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 2 (equal importance of anticipated goal, self implicated, high consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your boss calling to make arrangements for a conference call to be held later this week. You estimate it will take about 5 minutes to complete this call. There is a penalty for arriving late to the appointment – the doctor will take his next appointment and yours will be pushed back to a later time; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 2 (equal importance of anticipated goal, others implicated, low consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your boss calling to make arrangements for a conference call to be held later this week. You estimate it will take about 5 minutes to complete this call. You are the first appointment of the day and the doctor is in his office waiting for you to arrive. There are no penalties for arriving late to the appointment; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

Scenario 2 (equal importance of anticipated goal, others implicated, high consequence):
You are headed to your doctor appointment, which is scheduled for 9:00 a.m.. You are across the street from his office when your cell phone rings. It is your boss calling to make arrangements for a conference call to be held later this week. You estimate it will take about 5 minutes to complete this call. You are the first appointment of the day and the doctor is in his office waiting for you to arrive. There is a penalty for arriving late to the appointment – since your appointment will begin later than scheduled, everyone else's will be pushed back to a later time and the doctor will be off schedule; there are no incentives for arriving early.

What is the likelihood that you take the call and make the arrangements (it will take approximately 5 minutes) at <u>each</u> of the following times? Circle the appropriate responses.

APPENDIX B:
TIME-RELATED INDIVIDUAL DIFFERENCE ITEMS

Punctuality Items

I consider being on time to be an important priority.
I am generally very concerned about things getting done on time.
I consider it rude when others are late to scheduled events.
I feel that more people should value punctuality.
People should always arrive on time, even for casual appointments such as meeting a friend.
I get upset if I am even a few minutes late to an appointment.

Lateness Items

My friends and family expect that I will be late for scheduled meeting times.
I frequently find that I run late or break commitments with friends due to lack of time.
I am rarely late for appointments and classes.*

* Reverse scored item

Busyness Items

I consider myself to be a busy person.
I often feel as though there are not enough hours in the day to accomplish what I need to do.
I feel as though I lack personal time due to my commitments to other individuals or organizations (work, school, friends, etc.)
I think I have more commitments than most of my friends.
I consider my time a scarce resource.

Own Commitments Items

I would rather have someone wait for me than to wait for someone else.
I consider other peoples' time to be as important as my own.*
It is unfair if I have to give up my time for the sake of someone else's.
I would be willing to keep someone waiting in order to finish something on my "to do" list.
I value my time more than the time of others.
I often keep someone waiting in order to finish something on my "to do" list.
I consider my "to do" list more important than other people's "to do" lists.
My time is more important to me than other people's time.

APPENDIX C:
STUDY TWO PROCESS ITEMS

Negative Affect Items

Anxious
On edge
Depressed
Dejected

Positive Affect Items

Relaxed
Calm
Happy
Satisfied

Affect Regulation (Regulation) Items

Regulation1	Having my favorite beverage would make me feel better about being late to class.
Regulation2	I would regret my decision to be late to class much less if I had my favorite beverage.
Regulation3*	I would feel guilty knowing that buying my favorite beverage made me late to class.
Regulation4	Having my favorite beverage makes up for the fact that I was late to class.
Regulation5	In this scenario, I feel I deserve the beverage.

* Reverse scored item

Goal Prioritization Items

Priority1	In this scenario, I consider getting to class on time to be my primary goal.
Priority2	In this scenario, I consider getting to class on time to be my secondary goal.
Priority3	In this scenario, I consider getting my beverage to be my primary goal.
Priority4	In this scenario, I consider getting my beverage to be my secondary goal.

Goal Switching Items

Switch1	Once I know I'm going to be late to class, getting my beverage becomes my primary goal.
Switch2	Once I know I'm going to be late to class, the goal of getting to class on time is less important to me.

APPENDIX D:
STUDY THREE SCENARIOS

Scenario (low distance, low consequence):
You are headed for your marketing class and it looks like you are going to be just on time. Note that there are no penalties for arriving late to class; there are no incentives for arriving early.

A graduate student approaches you in the hallway and asks if you would mind filling out a brief survey. She tells you that it will take approximately 5 minutes, which means that you will be late for class. She is willing to pay you for your participation.

What amount would you require to fill out the survey (it will take approximately 5 minutes)? Please circle the number that represents how likely you are to complete the survey for <u>each</u> of the following amounts:

	Would definitely **NOT** fill out survey						Would definitely fill out survey
You will **<u>not</u>** be paid	1	2	3	4	5	6	7
You will be paid **$1**	1	2	3	4	5	6	7
You will be paid **$2**	1	2	3	4	5	6	7
You will be paid **$3**	1	2	3	4	5	6	7
You will be paid **$4**	1	2	3	4	5	6	7
You will be paid **$5**	1	2	3	4	5	6	7
You will be paid **$6**	1	2	3	4	5	6	7
You will be paid **$7**	1	2	3	4	5	6	7
You will be paid **$8**	1	2	3	4	5	6	7
You will be paid **$9**	1	2	3	4	5	6	7
You will be paid **$10**	1	2	3	4	5	6	7
You will be paid **$11**	1	2	3	4	5	6	7
You will be paid **$12**	1	2	3	4	5	6	7
You will be paid **$13**	1	2	3	4	5	6	7
You will be paid **$14**	1	2	3	4	5	6	7
You will be paid **$15**	1	2	3	4	5	6	7
You will be paid **$16**	1	2	3	4	5	6	7
You will be paid **$17**	1	2	3	4	5	6	7
You will be paid **$18**	1	2	3	4	5	6	7
You will be paid **$19**	1	2	3	4	5	6	7
You will be paid **$20**	1	2	3	4	5	6	7

People have different ideas about what defines "late." In this scenario, filling out the survey would make you 5 minutes late to class. Please circle the degree to which you consider this "late to class"?

Not at all late 1 2 3 4 5 6 7 Very late

Is there a time beyond which you would decide that it is too late to attend class and you would simply not go?

If so, please write down how many minutes late that would be: _____.

Scenario (high distance, low consequence):
You are headed for your marketing class and it looks like you are going to be about ten minutes late. Note that there are no penalties for arriving late to class; there are no incentives for arriving early.

A graduate student approaches you in the hallway and asks if you would mind filling out a brief survey. She tells you that it will take approximately 5 minutes, which means that you will be later for class. She is willing to pay you for your participation.

Scenario (low distance, high consequence):
You are headed for your marketing class and it looks like you are going to be just on time. There is a penalty for arriving late to class – you will be marked down late on your class record; there are no incentives for arriving early.

A graduate student approaches you in the hallway and asks if you would mind filling out a brief survey. She tells you that it will take approximately 5 minutes, which means that you will be late for class. She is willing to pay you for your participation.

Scenario (high distance, high consequence):

You are headed for your marketing class and it looks like you are going to be about ten minutes late. There is a penalty for arriving late to class – you will be marked down late on your class record; there are no incentives for arriving early.

A graduate student approaches you in the hallway and asks if you would mind filling out a brief survey. She tells you that it will take approximately 5 minutes, which means that you will be later for class. She is willing to pay you for your participation.

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