

**GOAL PURSUIT IS MORE THAN PLANNING:
THE MODERATING ROLE OF REGULATORY FIT**

A Dissertation

by

WING YIN LEONA TAM

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2005

Major Subject: Marketing

**GOAL PURSUIT IS MORE THAN PLANNING:
THE MODERATING ROLE OF REGULATORY FIT**

A Dissertation

by

WING YIN LEONA TAM

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Approved by:

| | |
|-------------------------|--|
| Co-Chairs of Committee, | Richard P. Bagozzi Rajan Varadarajan |
| Committee Members, | William M. Pride Jelena Spanjol Richard W. Woodman |
| Head of Department, | Rajan Varadarajan |

August 2005

Major Subject: Marketing

ABSTRACT

Goal Pursuit Is More Than Planning: The Moderating Role of Regulatory Fit.

(August 2005)

Wing Yin Leona Tam, B.B.A., The Chinese University of Hong Kong;

M. Phil., The Chinese University of Hong Kong;

Co-Chairs of Advisory Committee: Dr. Richard P. Bagozzi
Dr. Rajan Varadarajan

Research indicates that planning helps consumers in their goal pursuit, but little is known about how and when such beneficial effects change with regulatory fit – fit between consumers’ regulatory orientation and goal pursuit means. Results of three studies show that 1) the benefits of forming implementation intentions, or planning details such as *when, where, how, and how long* to perform goal-directed actions and attain consumer goals are stronger in regulatory nonfit situations (study 1), and 2) implementation intentions can be viewed as goal pursuit means and be part of the regulatory fit formulation to show the “value from fit” effect on instrumental behavior and goal attainment (studies 2 and 3). Specifically, study 1 showed that consumers in regulatory nonfit situations are more likely to perform instrumental behavior and have higher goal attainment by forming implementation intentions than consumers in regulatory fit situations. This research also provides empirical evidence of the notion of “value from fit” to the regulatory fit literature, that is, the mediating role of motivation intensity in the regulatory fit-instrumental behavior and regulatory fit-goal attainment linkages in studies 2 and 3.

ACKNOWLEDGEMENTS

It is a real pleasure for me to be able to thank everyone who has helped me during the journey of this dissertation. In the first place I want to thank my co-chairs, Rick Bagozzi and Rajan Varadarajan, for giving me the opportunity to work with them the past few years. Their continual guidance and support are greatly appreciated.

I extend my special thanks to Wendy Wood for instilling in me a passion for research, to Jelena Spanjol for her encouragement and mentoring, to Bill Pride for his indispensable perspective, and to Dick Woodman for his wisdom. I also want to thank my friend Suzi Kennedy for reminding me there is always life beyond work.

For the great working atmosphere at Texas A&M and assisting in the various stages of my research, I thank my colleagues Dongwoo Shin, Garry Smith, Julie Guidry, and Mike Kroff. A special mention goes to Duane Dewald for his continuous help with data collection.

Two people deserve a special credit. My little sister Myra has been a wonderful sister. Thanks for taking care of mom and dad while your big sis was away. Mark, you have been so understanding and patient. Thanks for always being there for me.

Finally, a sincere thank you to my parents, sister Vivian, the people at Texas A&M, and all my friends for providing me ample opportunities to divert my mind and for helping keep my feet firmly on the ground.

TABLE OF CONTENTS

| | Page |
|---|------|
| ABSTRACT | iii |
| ACKNOWLEDGEMENTS..... | iv |
| TABLE OF CONTENTS..... | v |
| LIST OF FIGURES | vii |
| LIST OF TABLES..... | viii |
| INTRODUCTION | 1 |
| Implementation Intentions Enhance Goal Pursuit | 5 |
| Regulatory Fit as Goal Pursuit Motivation | 6 |
| High Impediment Conditions..... | 12 |
| Instrumental Behavior Versus Goal Attainment..... | 14 |
| A Typology of Regulatory Fit..... | 15 |
| Action Initiation..... | 18 |
| Action Persistence..... | 20 |
| STUDY 1: REGULATORY FIT AND THE IMPLEMENTATION INTENTIONS- GOAL PURSUIT LINK | 23 |
| Participants and Procedures | 23 |
| Results and Discussion | 25 |
| Instrumental Behavior | 25 |
| Goal Attainment | 26 |
| Instrumental Behavior as Mediator to Goal Attainment | 29 |
| Action Initiation | 30 |
| Action Persistence | 31 |
| STUDY 2: FIT BETWEEN INDIVIDUAL DIFFERENCES AND IMPLEMENTATION INTENTIONS | 34 |
| Participants and Procedures | 34 |
| Results and Discussion | 37 |

| | Page |
|--|------|
| STUDY 3: FIT BETWEEN REGULATORY ORIENTATION AND IMPLEMENTATION INTENTIONS | 45 |
| Participants and Procedures | 45 |
| Results and Discussion | 46 |
| GENERAL DISCUSSION AND CONCLUSIONS..... | 53 |
| REFERENCES | 57 |
| APPENDIX A SUMMARY OF CONSTRUCT DEFINITIONS OF FIGURE 1 | 68 |
| APPENDIX B MEASUREMENT ITEMS FOR REGULATORY ORIENTATION | 69 |
| APPENDIX C PRETESTS FOR STUDIES 1 TO 3..... | 70 |
| APPENDIX D LISTS OF HEALTHY AND UNHEALTHY SNACKS..... | 71 |
| APPENDIX E REGULATORY ORIENTATION MANIPULATION ARTICLES | 72 |
| VITA | 74 |

LIST OF FIGURES

| FIGURE | | Page |
|--------|--|------|
| 1 | Moderating Role of Regulatory Fit in Goal-Directed Behavior..... | 3 |
| 2 | A Typology of Regulatory Fit..... | 17 |
| 3 | Study 1: Regulatory Fit, Implementation Intentions, and Instrumental Behavior | 28 |
| 4 | Study 1: Regulatory Fit, Implementation Intentions, and Goal Attainment | 29 |
| 5 | Study 1: Regulatory Fit, Implementation Intentions, and Action Initiation | 31 |
| 6 | Study 1: Regulatory Fit, Implementation Intentions, and Action Persistence | 33 |
| 7 | Study 2: Regulatory Fit and Motivation Intensity | 41 |
| 8 | Study 2: Regulatory Fit and Instrumental Behavior | 42 |
| 9 | Study 2: Regulatory Fit and Goal Attainment | 43 |
| 10 | Study 3: Regulatory Fit and Motivation Intensity | 49 |
| 11 | Study 3: Regulatory Fit and Instrumental Behavior | 50 |
| 12 | Study 3: Regulatory Fit and Goal Attainment | 51 |

LIST OF TABLES

| TABLE | Page |
|--|------|
| 1 Study 1: Effects of Regulatory Fit and Forming Implementation Intentions on Goal Pursuit | 27 |
| 2 Study 2: Regression Analysis Predicting Goal Pursuit from Regulatory Fit Between Individual Differences and Implementation Intentions..... | 39 |
| 3 Study 2: Mediation Analysis | 40 |
| 4 Study 3: Regulatory Fit and Goal Pursuit | 48 |

INTRODUCTION

Much of consumer behavior is goal-directed (Bagozzi and Dholakia 1999). Pursuing goals provides structure to our lives in general (Aarts, Dijsterhuis, and Midden 1999) and our consumption in particular. Marketers influence various stages of the choice and pursuit of consumption goals. For example, goals of happiness, good health, and sense of inner peace are common among most people. Marketers influence the adoption of goals by helping consumers visualize what it would be like to achieve these goals, or they influence goal priorities by dramatizing the consequences of neglecting or pursuing a particular goal. When consumers seek a goal such as good health, marketers provide many ways of going about achieving it, such as taking vitamins, joining health clubs, exercising regularly, going to professional nutrition services to monitor diets, having regular health checkups, and so on. This means that goals do not precisely determine product wants (O'Shaughnessy 1987).

As shown in Figure 1 and a summary of construct definitions in Appendix A, the goal-directed consumer behavior model (e.g. Bagozzi and Dholakia 1999; Gollwitzer and Bayer 1999; Gollwitzer 1990; Heckhausen 1991) considers goal-directed behavior to be a function of two separate processes -- goal setting and goal pursuit. Goal-setting begins when consumers appraise the desirability and feasibility of potential goals and then choose a goal, which results in a goal intention (i.e., a decision to pursue a goal), and initiates the goal pursuit process. In traditional theories on goal pursuit, the intention to achieve a certain goal is seen as an immediate determinant of behavior and goal

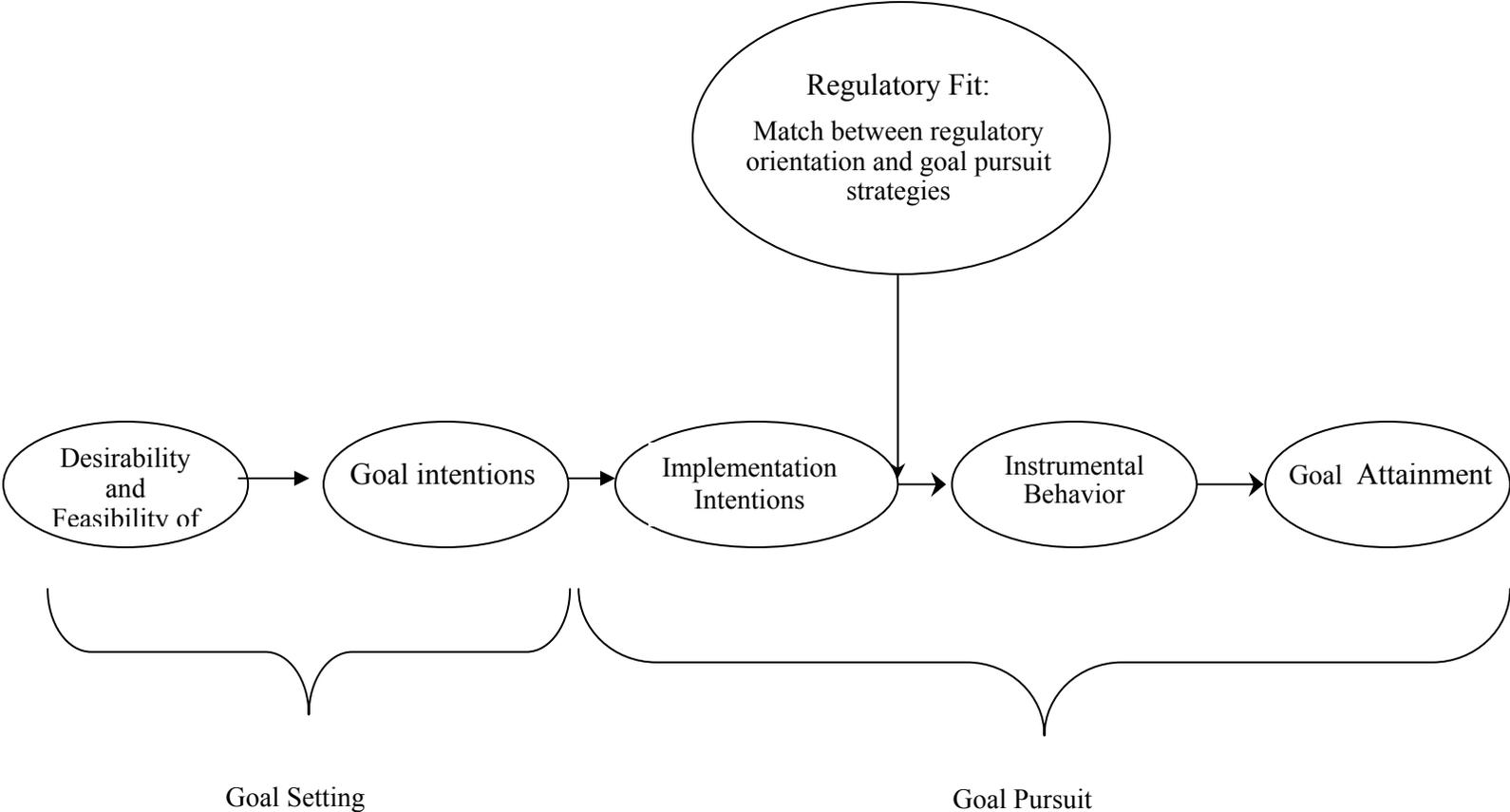
achievement (Brandstatter, Heimbeck, Malzacher, and Frese 2003). For decades, research dealt with the factors that determine the formation of strong intentions, and intention has been applied frequently as a surrogate of behavior in consumer research (Ajzen 1985; Atkinson 1964; Belk 1985; Fishbein and Ajzen 1975).

Equating goal intention with behavior, however, oversimplifies the complex process of decision implementation in consumer behavior. After developing goal intentions, in many situations consumers will still be far from overt behavior, such as making a purchase and using a product or service to attain their goals, even if they make commitments to their goals (Gollwitzer 1990) because intentions formed do not necessarily translate into overt consumer behavior (Bagozzi 1992; Bagozzi, Baumgartner, and Yi 1992; Bagozzi and Warshaw 1990; Gollwitzer and Brandstatter 1997; Sheppard, Hartwick, and Warshaw 1988). To focus on issues in goal setting, without looking at subsequent goal pursuit, would provide us with only a partial understanding of motivation in consumer goal-directed behavior. Goal intention leads consumers to develop *implementation intentions*, which in turn, facilitate instrumental behavior, and thus enhance goal attainment (e.g. Bagozzi, Dholakia, and Basuroy 2003; Gollwitzer and Brandstatter 1997). However, little attention has been paid to the self-regulatory processes mediating the effects of intentions on behavior (Brandstatter et al. 2003).

Implementation intentions are powerful *self-regulatory tools* for overcoming typical obstacles associated with the initiation and persistence of goal-directed actions (Gollwitzer and Brandstatter 1997). A separate line of motivation research has identified two distinct *self-regulatory systems*. Regulatory focus theory (Higgins 1997) proposes

FIGURE 1

MODERATING ROLE OF REGULATORY FIT IN GOAL-DIRECTED BEHAVIOR



that self-regulation occurs in the form of either a promotion or prevention orientation. Both systems are assumed to coexist in principle in every person, but one system is chronically more operative than the other in any given individual. Regulatory fit theory (Higgins 2000) extends the literature on regulatory focus theory and suggests that information processing, motivational intensity, perceived value, and persuasiveness increase when people's regulatory orientation fits their strategic manner of goal pursuit.

The purpose of this study is to examine how and why consumers are motivated in the goal pursuit process. A model that integrates implementation intentions and regulatory fit is used to explain the process. In particular, the following research questions are addressed:

- 1) Do regulatory fit and implementation intentions play additive or interactive roles in the consumer goal pursuit process? Specifically, are the beneficial effects of forming implementation intentions stronger in the regulatory fit or regulatory nonfit situations?
- 2) What are the impacts on consumer goal pursuit when implementation plans are formulated in a promotion focus versus prevention focus manner? In other words, will instrumental behavior and goal attainment be enhanced as suggested by the notion of "value from fit" when there is regulatory fit between implementation intentions and consumers' regulatory orientations?
- 3) If instrumental behavior and goal attainment are enhanced when there is regulatory fit between implementation intentions and consumers' regulatory orientations, what is the underlying mechanism of this "value from fit?"

Implementation Intentions Enhance Goal Pursuit

Implementation intentions refer to explicit plans that link instrumental behavior with contextual features that signify an opportunity for the behavior (Gollwitzer 1996), and also provide self-commitment to particular instrumental behavior (Bagozzi 2004). Often times, implementation intentions are expressed in a contingent form such as ‘when x occurs, I will do y’ (Brandstätter, Lengfelder, and Gollwitzer 2001) and represent a cluster of decisions concerning when, where, how, and how long to act. Implementation intentions motivate and energize the enactment of instrumental behavior, when relevant environmental cues subsequently occur. Therefore, for people who form implementation intentions to attain their goals, instrumental behavior is more likely to occur than for those who do not form implementation intentions, *ceteris paribus*.

The purpose of an implementation intentions is to lay down a specific plan that helps to promote the initiation and efficient execution of instrumental behavior. The failure to develop implementation plans to attain one’s goals is a main reason for goal failure (Koestner, Lekes, Powers, and Chicoine 2002). Implementation intentions always “stand in the service of a goal intention” (Gollwitzer and Brandstatter 1997; Gollwitzer and Schaal 1998). That is, implementation intentions will not, on their own, influence behavior and goal attainment without a goal intention (Milne, Orbell, and Sheeran 2002).

Determining the factors that promote successful goal pursuit is one of the fundamental questions studied by self-regulation and motivation researchers (Oettingen and Gollwitzer 2001), where implementation intentions have been shown to be important (Gollwitzer, Fujita, and Oettingen 2004). A wealth of literature in psychology and

consumer behavior has documented the beneficial effects of forming implementation intentions on instrumental behavior and goal attainment (e.g., Bagozzi and Edwards 2000; Dholakia and Bagozzi 2003; Koestner, et al. 2002; Sheeran 2002; Koole and Van't Spijker 2000; Taylor, Pham, Rivkin, and Armor 1998). The effects of implementation intentions on enhancing instrumental behavior and facilitating goal attainment have been quantified in two meta-analytic studies. In Sheeran's (2002) meta-analysis of 15 studies examining a range of behaviors (e.g., vitamin consumption, healthy eating, collecting coupons), the increase in instrumental behavior attributable to forming implementation intentions versus non-implementation intentions controls corresponded to an effect size of $d = 0.70$ (Wood, Quinn, and Neal 2005). Focusing on goal attainment, Koestner et al.'s (2002) meta-analytic synthesis of 13 studies generated an effect size of $d = 0.54$ ¹. These are considered "medium" effect sizes (Cohen 1992). That is, implementation intentions are found to have significant impact on both instrumental behavior and goal attainment.

Regulatory Fit as Goal Pursuit Motivation

While Gollwitzer and colleagues (e.g. Gollwitzer and Brandstatter 1997; Gollwitzer, Fujita, and Oettingen 2004) examined implementation intentions as a strategic self-regulatory tool, Higgins and colleagues (e.g. Higgins 1997; Higgins, Shah, and Friedman 1997) studied individual's self-regulatory systems, namely, promotion focus and prevention focus, as self-regulatory motivation. Under a promotion focus, self-regulation concentrates on hopes and aspirations (ideals); emphasizes the pursuit of positive outcomes; invokes heightened sensitivity to the presence and absence of positive

¹ Six studies are included in both meta-analyses and interpreted as behavior performance and goal attainment in the two studies, respectively.

outcomes; and employs approach strategies or eagerness-related strategies, which ensure the presence of positive outcomes (gains) and ensure against the absence of positive outcomes (nongains). Under a prevention focus, self-regulation calls attention to duties and obligations (oughts); emphasizes safety and the avoidance of losses or negative outcomes; invokes heightened sensitivity to the presence and absence of negative outcomes; and employs avoidance strategies or vigilance-related strategies, which ensure the absence of negative outcomes (nonlosses) and ensures against the presence of negative outcomes (losses).

Depending on their regulatory orientation, consumers are likely to respond differently to marketing communications for available goal and goal pursuit alternatives. For example, goal pursuit alternatives can be framed with a focus on the avoidance of negative outcomes that appeal to a customer's safety goals (e.g., an ad for a new health club advocating exercise as a way to avert heart damage), which should be especially persuasive to people exhibiting a prevention focus. On the other hand, marketing communications presenting goal pursuit alternatives with a focus on the attainment of positive outcomes (e.g., an ad for a new health club advocating exercise as a way to feel and look good) should appeal more to consumers with a promotion focus.

Regulatory focus theory (Higgins 1997) proposes that self-regulation occurs in the form of either a promotion or prevention orientation. Both systems are assumed to coexist in principle in every person, but one system is chronically more operative than the other in a given individual. A number of empirical studies applying this concept of dual motivation have found general support for this form of regulatory theory (e.g., Aaker and

Lee 2001; Crowe and Higgins 1997; Lee and Aaker 2004; Leone, Perugini, and Bagozzi 2005). It is noted that regulatory focus is conceptualized as a motivation system and has been studied both as a temporary, situationally induced orientation and as a chronic, individual-difference variable. Both approaches will be investigated in this study.

When studied as a chronic, individual-difference variable, regulatory focus has been assessed by three measures: 1) the Self-Guide Strength Measure developed by Higgins and colleagues (e.g., Higgins, Shah, and Friedman 1997; Shah and Higgins 1997), which uses reaction time to measure the chronic accessibility of people's ideals and oughts; 2) the Regulatory Focus Questionnaire (RFQ) developed by Higgins, Friedman, Harlow, Idson, Ayduk, and Taylor (2001) (e.g., Lee and Aaker 2004); and 3) the Behavioral Inhibition/ Behavioral Activation scales (BIS/BAS) developed by Carver and White (1994) (e.g., Leone, Perugini, and Bagozzi 2005), which measures the self-regulatory tendencies implied in Higgins (1997). Both the RFQ and BIS/BAS were also included in the current study. When studied as a situationally-induced orientation, regulatory focus has been manipulated either by framing an identical set of task payoffs for success or failure as involving "gain-nongain" (promotion focus) or "nonloss-loss" (prevention focus) (e.g., Leone, Perugini, and Bagozzi 2005; Shah and Higgins 1997; Shah, Higgins, and Friedman 1998), or by priming ideals or oughts (Higgins, Roney, Crowe, and Hymes 1994).

The regulatory focus of individuals affects their behavior in various ways (for a detailed review see Higgins and Spiegel 2004). Compared to promotion-focused individuals, prevention-oriented individuals prefer start instrumental behavior sooner,

emphasize more on accuracy and less on speed and efficiency in goal pursuit, and are more open to changes as well as activity and object substitutions in satisfactory situations. Regulatory orientation moderates the sunk cost effects associated with unsatisfactory situations (Higgins et al. 2001). Sunk cost effect occurs when people refuse to change their previous plans in which they have already put in non-returnable resources such as time and money, even when there are new alternatives that give them more benefits and do not incur more additional investments or costs than the previous plan. Promotion-focused individuals are less likely than prevention-focused individuals to demonstrate sunk cost effects when the sunk cost error is framed as an error of omission (e.g., the error of missing a great consumption experience), while prevention-focused individuals are less likely than promotion-focused individuals to show sunk cost effects when the sunk cost error is framed as an error of commission (e.g., the error of wasting additional money).

Higgins (2000, 2002) extended the dual-motivation framework to consider regulatory fit between an individual's regulatory orientation and strategic means for pursuing a goal. Empirical studies showed that information processing (Lee and Aaker 2004), motivation intensity (Bianco, Higgins, and Klem 2003; Higgins, Idson, Freitas, Spiegel, and Molden 2003; Freitas, Liberman, and Higgins 2002), perceived value (Avnet and Higgins 2003; Camacho, Higgins, and Luger 2003; Higgins et al. 2003), affective evaluation (Freitas and Higgins 2002; Freitas et al. 2002; Idson, Liberman, and Higgins 2004), and persuasiveness (Cesario, Grant, and Higgins 2004; Lee and Aaker 2004;

Spiegel, Grant-Pillow, and Higgins 2002) increase when the regulatory orientation of individuals fits their strategic manner of goal pursuit.

Specifically, regulatory fit refers to the match between a person's self-regulatory focus or orientation and the goal pursuit strategies. Customers experience regulatory fit when they use a strategy of goal pursuit that fits their regulatory orientation, and this regulatory fit increases the value of the goal pursuit process. Higgins et al. (2003) emphasized that value from fit is independent of the value of goal pursuit consequences, the value from the likelihood of being successful in goal attainment, the value of using proper goal pursuit means, and the value of relevant goals:

Instead, what matters for value from fit is whether individuals pursue a goal in a manner that sustains their own self-regulatory orientation, whether that orientation is chronic or momentary. (p.1141)

When regulatory fit exists, people feel right about what they are doing, and this experience affects subsequent judgments (e.g., Idson, Liberman, and Higgins 2000). According to this notion of "value from fit," people's motivation intensity during goal pursuit will be stronger when regulatory fit is higher (Higgins 2000).

For promotion-oriented customers, an eagerness-related strategy that emphasizes the presence of positive outcomes (gains) and against the absence of positive outcomes (nongains) should then produce higher regulatory fit than a vigilance-related approach which emphasizes the absence of negative outcomes (nonlosses) and against the presence of negative outcomes (losses). The reverse is true for prevention-oriented customers. For example, consumers monitoring their expenses can employ either eagerness-related strategies such as looking for coupons and mail-in rebates for purchases, or vigilance-

related strategies such as minimizing dining-out with friends and using up food and household items already bought for home cooking.

In the context of juice purchases, Aaker and Lee (2001) showed that a message emphasizing an eagerness-related approach (i.e., promotion benefits: enhance energy levels) triggered higher product interest for customers with a promotion focus, while a message emphasizing a vigilance-related approach (i.e., prevention benefits: reduce the risk of heart disease) induced higher product higher for customers with a prevention focus. Therefore, customers experiencing higher regulatory fit (i.e., promotion-oriented customers in the eagerness-related message scenario and prevention-oriented customers in the vigilance-related message scenario) had higher motivation to learn more about the product. Lee and Aaker (2004) also studied regulatory fit in a marketing context by matching the regulatory focus of the content of a persuasive message with the message frame. A promotion-focused message highlighted the gains of grape juice (energy creation), and a prevention-focused message emphasized the nonlosses of grape juice (cancer and heart disease prevention). They framed the advertisement tagline as gains (“Get Energized!” for the promotion-focused message scenario and “Prevent Clogged Arteries!” for the prevention-focused message scenario) or losses (“Don’t Miss Out on Getting Energized!” for the promotion-focused message scenario and “Don’t Miss Out on Preventing Clogged Arteries!” for the prevention-focused message scenario). The results showed that regulatory focus moderates the effect of message framing on persuasion, that is, communication scenarios with regulatory fit generate greater persuasion than regulatory nonfit scenarios.

High Impediment Conditions

The effects of implementation intentions on instrumental behavior and goal attainment are found to be more beneficial in some conditions than others (for a review, see Gollwitzer, Fujita, and Oettingen 2004). For example, implementation intentions have a stronger effect on the goal pursuit process when goal intention is strong (Orbell, Hodgkins, and Sheeran 1997). A counter-intuitive finding was that the effect of forming implementation intentions increase the likelihood of instrumental behavior and facilitating goal attainment more, when there are high impediment conditions such as when the instrumental behavior is easy to forget (Sheeran and Orbell 1999; Chasteen, Park, and Schwarz 2001) or difficult to implement (Bagozzi and Edwards 2000; Gollwitzer and Brandstatter 1997).

In the context of an easy-to-forget consumer behavior, such as, vitamin C consumption, it was found that consumers who formed implementation intentions (such as take the vitamin “after breakfast,” or “when I give the kids their vitamins”) were less likely to report ‘forgetting’ to take the pills than consumers who did not form implementation intentions (Sheeran and Orbell 1999). In their personal goal study, Gollwitzer and Brandstatter (1997, Study 1) asked participants to list both easy-to-implement (e.g., to buy a textbook) and hard-to-implement (e.g., to find a new apartment) goals. Implementation intentions were found to be more beneficial for enhancing goal completion in hard-to-implement goal pursuit situations. The goal completion rate for participants who did not form implementation intentions were 22% and 78% for hard-to-implement and easy-to-implement goal pursuit, respectively. Participants who formed

implementation intentions reported higher goal completion rates, 62% for hard-to-implement goal pursuit and 84% for easy-to-implement goal pursuit. It is important to note that implementation intentions enhanced goal completion rates to a greater extent for hard-to-implement goal pursuit than for easy-to-implement goal pursuit. Though Gollwitzer and Brandstatter (1997) originally predicted there would be weaker effects generated by implementation intentions in hard-to-implement goal pursuit, as there were other external uncontrollable factors that could disrupt the goal pursuit, the implementation intentions-goal completion effect was found to be much stronger, partially because the base line goal completion rate (without forming implementation intentions) was significantly higher in the case of easy-to-implement than hard-to-implement goal pursuit.

Using impediments encountered in the goal pursuit process, Bagozzi and Edwards (2000) provided further support for the case of different baseline goal completion rates: goal pursuit appraisals of means, including self-efficacy, outcome expectancies, and affect towards the means, functioned additively (i.e., self-efficacy, outcome expectancies, and affect towards the means acted additively as main effects) for easy-to-implement goal pursuit and multiplicatively (i.e., behavior was performed only when self-efficacy, outcome expectancies, and affect towards the means are all high) to influence behavior for hard-to-implement goal pursuit. The beneficial effect of implementation intentions on instrumental behavior and goal attainment will be stronger when there are more impediments to goal pursuit as shown above. Because regulatory fit facilitates the goal pursuit process, regulatory nonfit implies less facilitation or more difficulties. Therefore,

forming implementation intentions should generate greater beneficial effects in regulatory nonfit than regulatory fit. As a consequence, the followings are hypothesized:

Hypothesis 1: The positive impact of implementation intentions on instrumental behavior in goal pursuit will be greater when regulatory fit is low versus high.

Hypothesis 2: The positive impact of implementation intentions on goal attainment in goal pursuit will be greater when regulatory fit is low versus high.

Instrumental Behavior versus Goal Attainment

Similar to intention formation and behavioral performance in traditional goal pursuit theories, such as the theory of reasoned action (Fishbein and Ajzen 1975) and the theory of planned behavior (Ajzen 1985), instrumental behavior and goal attainment have been defined and operationalized interchangeably in some empirical studies. There are six studies included in both aforementioned meta-analytic syntheses that summarize the impact of implementation intentions on instrumental behavior (Sheeran 2002) and goal attainment (Koestner et al. 2002). These six studies (Aarts, Dijksterhuis, and Midden 1999; Gollwitzer and Brandstatter 1997; Orbell and Sheeran 2000; Orbell, Hodgkins, and Sheeran 1997; Sheeran and Orbell 1999; Verplanken and Faes 1999) measured one construct that was interpreted as instrumental behavior and goal attainment, respectively, in the above two meta-analyses. However, instrumental behavior and goal attainment represent two distinct constructs, as described in the next paragraphs.

Instrumental behavior refers to the overt performance of chosen goal-directed actions. Goal attainment or realization refers to the degree that the goal is achieved. It is important to conceptually discriminate between plan enactment and goal realization, by

noting that one's goals can be realized successfully even when the initially selected plan is not enacted subsequently, or when there is no plan to begin with, and likewise one's plan can be enacted but not lead to goal attainment (Dholakia, Bagozzi, and Gopinath 2005). Dholakia, Bagozzi, and Gopinath (2005) used an example to illustrate: a consumer might choose a diet pill to lose unwanted body weight, but forget to take the pills while going on a trip and hence decide to reduce food intake. As a result, the goal of losing weight may still be attained without the planned instrumental behavior. In this study, it is maintained that instrumental behavior and goal attainment are two separate constructs with unique ontological existence and should be operationalized using distinct measures. The distinction between instrumental behavior and goal attainment is emphasized in this study, and it is hypothesized that:

Hypothesis 3: The positive impact of implementation intentions on goal attainment will be mediated by instrumental behavior.

A Typology of Regulatory Fit

The previous section discussed regulatory fit versus nonfit, this section will explore how different types of regulatory fit or nonfit influence the process of goal pursuit. Regulatory fit literature only focus on the effect of regulatory fit or nonfit. In reference to the different preferences of people with promotion and prevention orientations, a typology of regulatory fit is proposed in Figure 2. Four types of regulatory fit and nonfit are distinguished based on the conceptualization that judgmental processes and strategic behaviors of promotion and prevention orientations are different but not necessarily related along a continuum on a bipolar scale. Promotion fit refers to promotion-oriented people using promotion goal pursuit strategies; promotion nonfit

refers to promotion-oriented people using prevention goal pursuit strategies; prevention fit refers to prevention-oriented people using prevention goal pursuit strategies; and prevention nonfit refers to prevention-oriented people using promotion goal pursuit strategies. For example, promotion-oriented people performing tasks with emphasis on speed or quantity of accomplishment (promotion fit) versus prevention-oriented people performing tasks with emphasis on accuracy or quality of effort (prevention fit) represent two different cases of regulatory fit (Forster, Higgins, and Bianco 2003). Forster et al.'s (2003) results demonstrate two important features of regulatory focus or regulatory fit research: (a) the possibility of different framing variables (speed for promotion focus vs. accuracy for prevention focus) required in forming the construct regulatory fit for promotion and prevention orientation, and (b) the potential independent effect of different types of regulatory fit on goal pursuit. Given the notion of "value from fit," the increased motivation intensity from regulatory fit should facilitate the goal pursuit process, but different aspects of goal pursuit may be affected by different types of regulatory fit or nonfit. For example, promotion fit may lead to faster goal completion than the other three types of regulatory fit/nonfit.

Looking into how implementation intentions facilitate instrumental behavior, two aspects of implementation intentions effects are particularly crucial, namely, action initiation and action persistence. Action initiation and persistence capture two commonly encountered problems: 1) difficulties with getting started due to a lack of opportunities, and 2) difficulties with sticking to an ongoing goal pursuit in the face of distractions, temptations, and competing goal pursuits. Problems associated with getting started and

persisting until the goal is reached have to be effectively solved because starting to strive for a goal facilitates goal completion (Gollwitzer and Bayer 1999), and persisting in striving for a goal enhances progress in goal attainment.

FIGURE 2

A TYPOLOGY OF REGULATORY FIT

| | | <u>Regulatory Orientation</u> | |
|---------------------|-------------------------------|-------------------------------|------------------------|
| | | Promotion Orientation | Prevention Orientation |
| <u>Goal Pursuit</u> | Promotion Pursuit Strategies | Promotion Fit | Prevention Nonfit |
| | Prevention Pursuit Strategies | Promotion Nonfit | Prevention Fit |

Taking together the above two goal pursuit strategies preferred by promotion- and prevention-focused orientations, a prevention focus will initiate the goal pursuit process sooner and a promotion focus will complete the process faster. In other words, consumers with a promotion focus will initiate goal pursuit process later but complete it faster compared to consumers with a prevention focus who will initiate goal pursuit sooner but complete it more slowly. The following section explains how implementation intentions and regulatory fit affect action initiation and action persistence together.

Action Initiation. Promotion- and prevention-focused people have different temporal preferences to start instrumental behavior. Prevention focus emphasizes on the

avoidance of negative outcomes like complete goal failure. A prevention focus engenders pressure to start instrumental act quickly to meet the minimum goal requirements and there is “a tendency to view goal pursuit as a necessity” (Higgins and Spiegel 2004, p.178). Action initiation (i.e. starting instrumental behavior) becomes a priority as it can be viewed as the minimum requirement to the process of goal pursuit. On the other hand, promotion focus emphasizes on the approach of positive outcomes like complete goal achievement. A promotion focus does not experience the same pressure to start instrumental act quickly because the beginning of goal pursuit is just regarded as making progress towards the goal. Freitas, Liberman, Salovey, and Higgins (2002) found that prevention-focused people showed more immediate action initiation (i.e. quicker start to perform instrumental behavior) compared to promotion-focused people. The results were replicated when the goal was framed as a promotion-related accomplishment or a prevention-related necessity.

Both promotion and prevention systems are assumed to coexist in every person, depending on which one is more accessible. This accessibility is a result of a person’s chronic individual difference, and the situational orientation which is induced by either framing the goal pursuit scenario or priming ideals or oughts. Research showed that chronic accessibility and temporarily enhanced accessibility are additive in nature (Bargh, Bong, Lombardi, and Tota 1986). Therefore, we anticipate that the immediate action initiation pressure of prevention focus to be stronger when a person has a prevention orientation and in a prevention pursuit strategy scenario, i.e. prevention fit, compared to prevention nonfit, promotion fit, and promotion nonfit. In other words, there

is less impediment of action initiation and more immediate action initiation should be observed in prevention fit, among all four types of regulatory fit.

Empirical studies on implementation intentions found that people who form implementation plans for their chosen instrumental behavior reported action initiation of plans sooner than those who do not form implementation plans (Gollwitzer 1999). Gollwitzer (1993, 1999) argued that participants who plan their instrumental behavior exhibit a general “closed-mindedness,” which effectively ignores the alternative behaviors and focuses their attention and efforts on the implementation plan at hand. It is important to note that the positive effect of implementation intentions on action initiation was only found in the case where decision makers had multiple instrumental behavior alternatives. The multiple-alternative scenario is particularly relevant for marketers as they typically face competitive situations where consumers have multiple alternatives from which to choose to attain the same goal.

The beneficial effect of implementation intentions on action initiation is stronger when there is higher impediment. Prevention fit face less impediment of action initiation, compared to other three types of regulatory fit/nonfit. Therefore, forming implementation intentions should generate greater beneficial effects in promotion fit, promotion nonfit, and prevention nonfit, than prevention fit. As a consequence, it is hypothesized:

Hypothesis 4: The positive effect of implementation intentions on action initiation will be stronger for promotion fit, promotion nonfit, prevention nonfit, than prevention fit.

Action Persistence. Initiating the instrumental behavior sooner may or may not lead to goal attainment. It is also important to be persistent in enacting the chosen plan so

as to attain the goal. Action persistence is the length of time that a person chooses to perform the instrumental behavior. Promotion- and prevention-focused people have different emphasis in this temporal aspect of goal pursuit. Forster, Higgins, and Bianco (2003) proposed that individuals with a promotion focus are more concerned about approach positive outcomes, therefore are more concerned about maximization of time or efficiency to approach the opportunity to achieve “hits” than individuals with a prevention focus. On the other hand, a prevention focus are more concerned about avoid negative outcomes such as making mistakes, therefore are less concerned about efficiency in the goal pursuit process. Therefore, a promotion focus has the urge to move towards the goal line and place more emphasis on speed compared to prevention focus. Empirical support was found in four experiments that either measured or framed the regulatory focus of participants. With the emphasis on speed and efficiency, promotion-focused people prefer performing instrumental behavior faster and spend less time on it, that means, their action persistence or length of time spent in goal pursuit is lower, compared to prevention-focused people.

In line with the discussion in action initiation, it is anticipated that the urge to be efficient of promotion focus to be stronger when a person has a promotion orientation and in a promotion goal pursuit strategy scenario, i.e. promotion fit, compared to the other types of regulatory fit - promotion nonfit, prevention fit, and prevention nonfit. In other words, there is less impediment of action persistence and shorter action persistence observed in promotion fit, among all four types of regulatory fit.

Forming implementation intentions was found to help people being more persistent performing the instrumental behavior. Most goal-directed behavior have to be performed repeatedly to reach the goal. When instrumental behavior is to be repeated, it is influenced by other factors such as temptations and competing goals. Forming implementation intentions helps fighting these temptations and competing goals by creating a general “closed-mindedness.” The underlying theory is that by forming implementation intentions, people pass on control of goal-directed activities from the self to the environmental cues subsequently experienced. The intended behavior is subject to external control through environmental cues specified in the formation of implementation intentions; it is claimed that they prompt the intended instrumental behavior automatically every time these cues are encountered (Gollwitzer and Bayer 1999).

The beneficial effect of implementation intentions on action persistence is stronger when there is higher impediment. Promotion fit face less impediment of action persistence, compared to other three types of regulatory fit/nonfit. Therefore, forming implementation intentions should generate greater beneficial effects in prevention fit, prevention nonfit, and promotion nonfit, in comparison to promotion fit. As a consequence, it is hypothesized:

Hypothesis 5: The positive effect of implementation intentions on action persistence will be stronger for prevention fit, prevention nonfit, promotion nonfit, than promotion fit.

Support for these hypotheses would imply that, rather than forming implementation intentions being generally facilitative of instrumental behavior, goal attainment, action initiation, and action persistence, the effect of forming implementation

intentions is contingent on regulatory fit. These five hypotheses are tested in study 1. Study 1 examines how regulatory fit (fit between regulatory orientations and goal pursuit strategies) affects the beneficial effects of forming implementation intentions or not, then studies 2 and 3 investigate the “value from fit” effects by framing implementation intentions as promotion- or prevention-focused to conceptualize regulatory fit (fit between regulatory orientations and implementation intentions), and test the underlying mechanism of “value from fit.” As described before (p.4), there are three research questions in this study. Study 1 is conducted to examine the first research question while studies 2 and 3 attempt to answer the second and third research questions.

STUDY 1: REGULATORY FIT AND THE IMPLEMENTATION INTENTIONS- GOAL PURSUIT LINK

The objective of experiment 1 is to examine how implementation intentions affect consumers' goal pursuit process differently in regulatory fit and nonfit situations. In other words, does formation of implementation intentions facilitate instrumental behavior more in regulatory fit or nonfit scenarios. Before the study was administered, several pretests were conducted to provide insights for the study set up and instructions (Appendix B).

Participants and Procedures

A total of 328 undergraduate students (205 females, 123 males) participated in this study. Participants first completed the 11-item Regulatory Focus Questionnaire (RFQ; Higgins et al. 2001), which measured participants' individual differences² in promotion orientation in the 6-item RFQ promotion orientation subscale and the 5-item RFQ prevention orientation subscale (Appendix C). They were randomly assigned to one of the conditions in a 2 (promotion- vs. prevention-focused goal pursuit) x 2 (implementation intentions vs. control) between-group design. To manipulate regulatory focus of goal pursuit, participants were asked to collect all their receipts from eating out in the next three days and given one of the following instructions.

Promotion-focused: We will give you \$5.00 for coming back and turning in 1 receipt. You will have an additional opportunity to gain an extra \$3.00 if you succeed in turning in 2 or more receipts corresponding to meals that you purchased.

² Measurement items of BIS/BAS were originally included in the study with the RFQ items. We were unable to interpret the results using BIS/BAS scales as indicators of regulatory orientation. Results shown in this study used RFQ as indicators.

Prevention-focused: We will give you \$8.00 for coming back and turning in at least 2 receipts. If you fail to bring back 2 receipts but only 1 receipt, you will lose \$3.00 from your \$8.00 payment.

Regulatory fit occurred when promotion-focused participants were given promotion-focused instructions or prevention-focused participants were assigned prevention-focused instructions. Regulatory nonfit occurred when promotion-focused participants were given prevention-focused instructions or prevention-focused participants were given promotion-focused instructions. Next, half of the participants planned when, where, and how they would eat out in the coming three days (implementation intentions group) while the other half did not plan (control group).

Participants came back four days later to return their receipts, answer a brief questionnaire measuring goal attainment (“I was able to achieve my goals of participating in this study” and “With regard to my goals of participating in the study, I think I attained all of them”) on 7-point scales with anchors “strongly disagree” and “strongly agree.” Then, participants were paid accordingly. Instrumental behavior was measured as number of receipts collected. Action initiation was coded on a 5-point scale based on the time and date of the first receipt collected. The higher the scale, the sooner the action initiation. Coding options were 1 (more than three days after manipulations were given), 2 (three days after manipulations were given), 3 (two days after manipulations were given), 4 (one day after manipulations were given), or 5 (on the same day as manipulations were given). Action persistence was also coded on a 5-point scale, based on the length of time between the first and the last receipt collected. Coding options were 1 (less than one day,

or only one receipt was collected), 2 (one day), 3 (two days), 4 (three days), or 5 (more than three days).

Results and Discussion

The scores of the RFQ promotion and prevention orientation subscales were averaged to form RFQ promotion (reliability $\alpha = .74$) and RFQ prevention (reliability $\alpha = .90$), respectively. Following the procedure proposed by Higgins et al. (2001), participants were classified into promotion or prevention focus, using the median split on the difference between RFQ promotion and RFQ prevention scores (the median was .05). Dependent variables included in the analysis are instrumental behavior, goal attainment, action initiation, and action persistence (Table 1). No gender differences in the dependent variables, instrumental behavior, goal attainment, action initiation, and action persistence, was found ($ps > .20$).

Instrumental Behavior. Hypothesis 1 predicts that implementation intentions will have a more positive impact on instrumental behavior for regulatory nonfit than regulatory fit. A 2 (individual differences in regulatory focus) x 2 (regulatory focus of goal pursuit means) x 2 (implementation intentions) ANOVA with instrumental behavior as the dependent variable revealed a significant three-way interaction ($F(1, 320) = 5.59, p < .05$). As predicted, forming implementation intentions had a stronger positive effect in increasing receipts returned for participants in regulatory nonfit (promotion orientation/prevention goal pursuit or prevention orientation/promotion goal pursuit) scenarios than for participants in regulatory fit (promotion orientation/promotion goal

pursuit or prevention orientation/prevention goal pursuit) scenarios ($F(1, 320) = 5.54, p < .05$). Therefore, hypothesis 1 was supported.

To further understand the effects, simple effects of individual differences in regulatory focus were decomposed (Keppel and Wickens 2004) and graphed in Figure 3. As expected, for promotion oriented participants, forming implementation intentions enhanced receipt collecting behavior more positively when they were given the prevention goal pursuit ($F(1, 320) = 4.33, p < .05$). Forming implementation intentions generated effects of the same direction for prevention oriented participants but the effect was not significant ($F(1, 320) = 1.60, p > .20$).

Goal Attainment. Hypothesis 2 predicts that implementation intentions will have a more positive impact on goal attainment for regulatory nonfit than regulatory fit. A 2 (individual differences in regulatory focus) x 2 (regulatory focus of goal pursuit means) x 2 (implementation intentions) ANOVA with goal attainment ($r = .74$) as the dependent variable revealed a significant three-way interaction ($F(1, 320) = 9.42, p < .01$). In support of hypothesis 2, forming implementation intentions had more positive effects in enhancing goal attainment for participants in regulatory nonfit (promotion orientation/prevention goal pursuit or prevention orientation/promotion goal pursuit) scenarios than regulatory fit (promotion orientation/promotion goal pursuit or prevention orientation/prevention goal pursuit) scenarios ($F(1, 320) = 9.15, p < .01$).

TABLE 1

**STUDY 1: EFFECTS OF REGULATORY FIT AND FORMING IMPLEMENTATION INTENTIONS
ON GOAL PURSUIT**

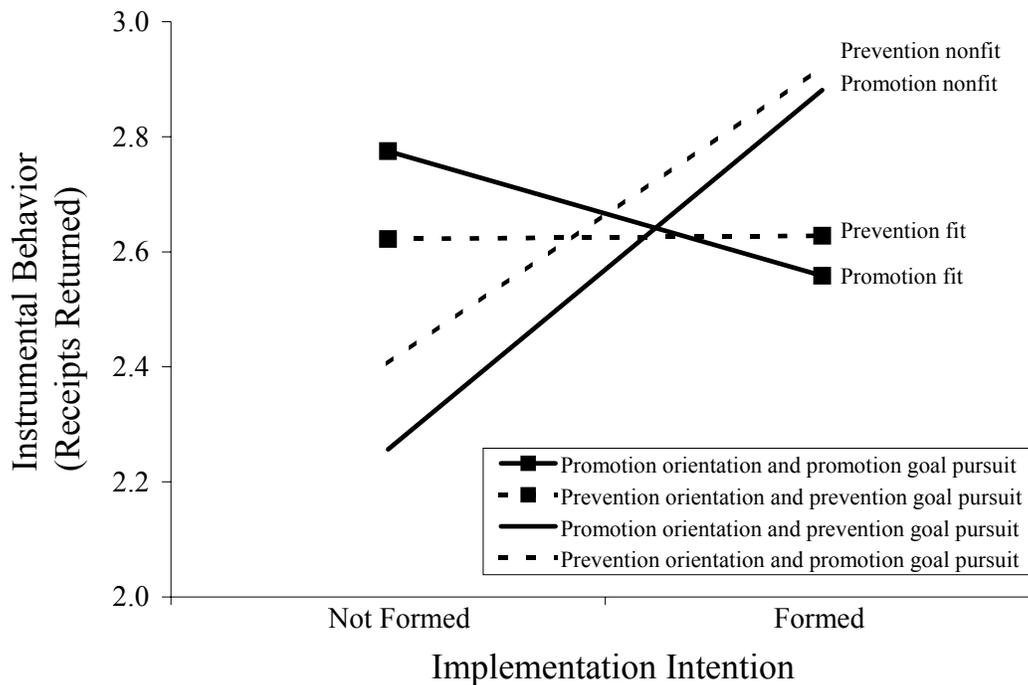
| | Not forming implementation intention | | | | Forming implementation intention | | | |
|-----------------------|--------------------------------------|----------------------------|---------------------------|----------------------------|----------------------------------|----------------------------|---------------------------|----------------------------|
| | Promotion orientation | | Prevention orientation | | Promotion orientation | | Prevention orientation | |
| | Promotion goal pursuit | Prevention goal pursuit | Promotion goal pursuit | Prevention goal pursuit | Promotion goal pursuit | Prevention goal pursuit | Promotion goal pursuit | Prevention goal pursuit |
| Instrumental behavior | 2.77 (1.31) | 2.26 (.94) | 2.41 (1.32) | 2.62 (1.44) | 2.56 (1.47) | 2.88 (1.31) | 2.92 (1.20) | 2.63 (1.25) |
| <i>n</i> = | 45 | 43 | 37 | 39 | 39 | 42 | 40 | 43 |
| Goal attainment | 6.37 (.95) | 5.89 (.92) | 5.74 (1.11) | 6.08 (1.24) | 5.8 (1.23) | 6.14 (1.04) | 6.37 (.99) | 6.08 (.77) |
| <i>n</i> = | 45 | 43 | 37 | 39 | 39 | 42 | 40 | 43 |
| Action initiation | 3.79 (1.17) | 3.63 (1.38) | 3.57 (1.37) | 4.44 (.67) | 4.03 (.94) | 4.03 (1.10) | 4.21 (.81) | 4.22 (.99) |
| <i>n</i> = | 41 | 41 | 37 | 38 | 38 | 38 | 39 | 38 |
| Action persistence | 2.21 (1.09) | 2.08 (.98) | 2.43 (1.26) | 2.54 (1.21) | 2.56 (1.16) | 2.68 (1.19) | 2.97 (1.01) | 2.39 (.89) |
| <i>n</i> = | 41 | 41 | 37 | 38 | 38 | 38 | 39 | 38 |

Note: Instrumental behavior ranges from 0 to 7, goal attainment ranges from 1 to 7, action initiation and action persistence range from 1 to 5. Standard deviations are shown in parentheses.

FIGURE 3

STUDY 1: REGULATORY FIT, IMPLEMENTATION INTENTIONS, AND

INSTRUMENTAL BEHAVIOR

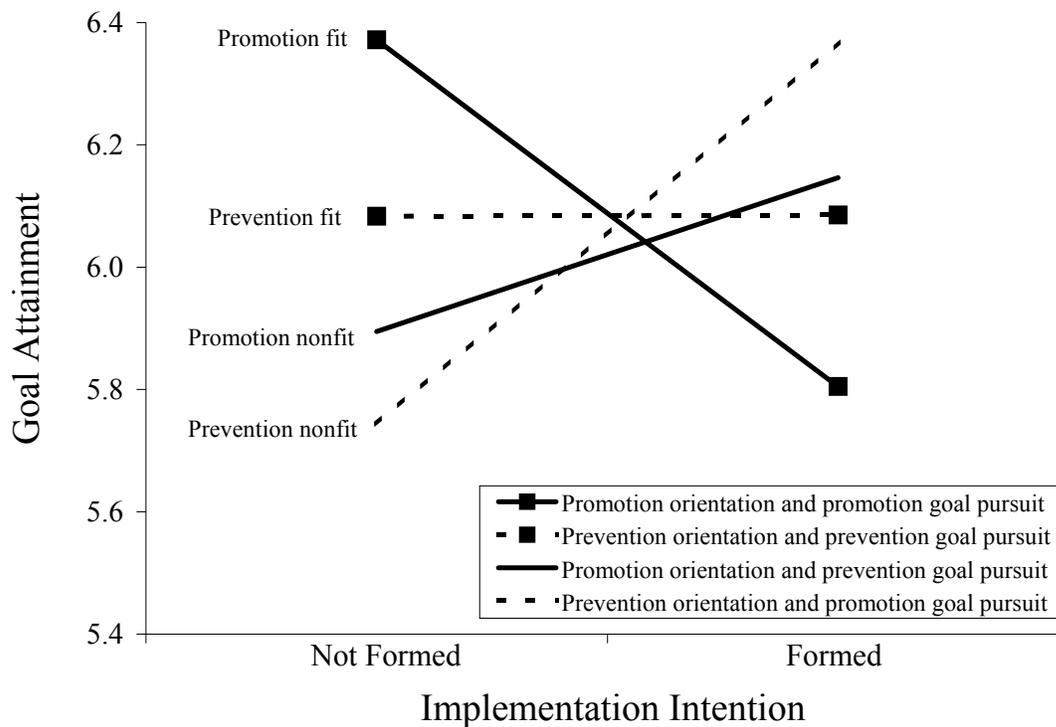


Simple effects of individual differences in regulatory focus were decomposed to understand the effects in details (Figure 4). For promotion oriented participants, forming implementation intentions enhanced goal attainment more positively when they were given the prevention goal pursuit ($F(1, 320) = 6.10, p < .05$) versus promotion goal pursuit. However, forming implementation intentions did not enhance goal attainment more positively when prevention oriented participants were given the promotion goal pursuit versus prevention goal pursuit ($F(1, 320) = 3.51, p > .05$).

FIGURE 4

STUDY 1: REGULATORY FIT, IMPLEMENTATION INTENTIONS, AND GOAL

ATTAINMENT



Instrumental Behavior as Mediator to Goal Attainment. To test whether the effect found in hypothesis 2 was mediated by instrumental behavior (hypothesis 3), a 3-step procedure outlined by Bray and Maxwell (1985) and Baron and Kenny (1986) was applied. First, a 2 (individual differences in regulatory focus) x 2 (regulatory focus of goal pursuit means) x 2 (implementation intentions) MANOVA with instrumental behavior and goal attainment as the dependent variable revealed a significant three-way interaction ($F(2, 308) = 5.08, p < .01$). Second, the 3-way ANOVAs of instrumental behavior and goal attainment yielded significant 3-way interactions with $F(1, 320) = 5.59$

($p < .05$) and $F(1, 320) = 9.42$ ($p < .01$) respectively. Third, a 3-way ANOVA of goal attainment with instrumental behavior as covariate showed a non-significant 3-way interaction ($F(1, 320) = 3.08, p > .05$) but a significant main effect of instrumental behavior ($F(1, 320) = 9.49, p < .01$). Therefore, instrumental behavior was found to mediate the effect of regulatory fit and implementation intentions on goal attainment. Therefore, hypothesis 3 was supported.

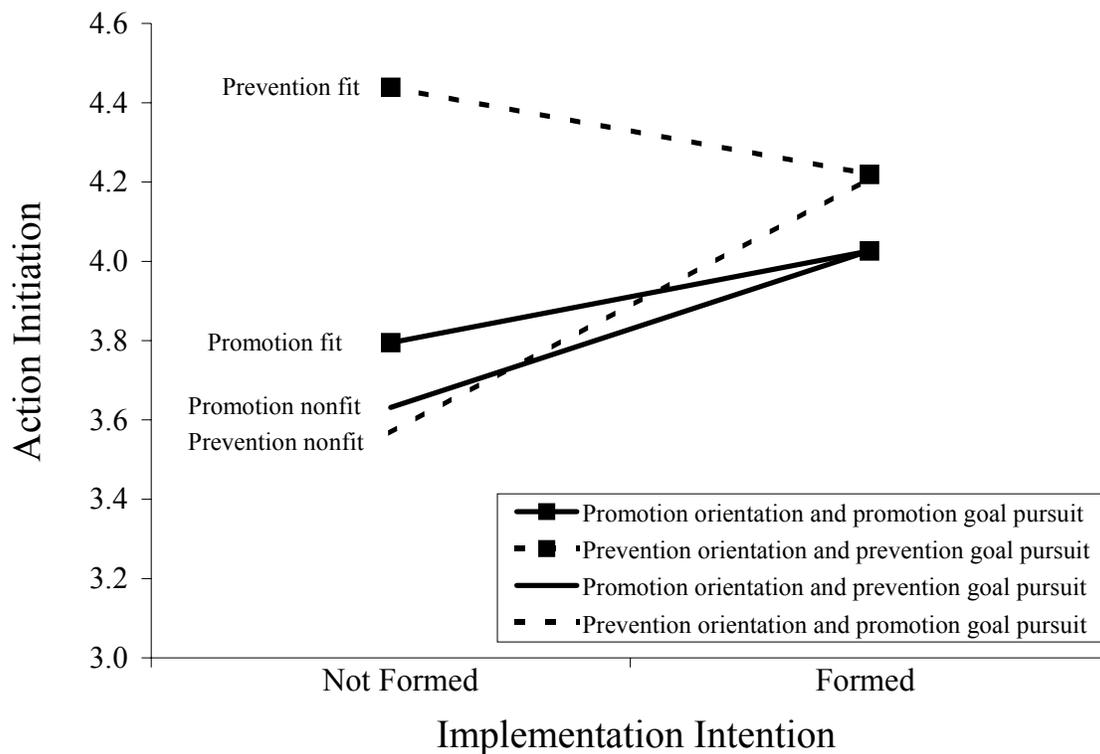
Action Initiation. Hypothesis 4 predicts that implementation intentions will have the least positive impact on action initiation for prevention fit compared to promotion fit, promotion nonfit, and prevention nonfit. A 2 (individual differences in regulatory focus) x 2 (regulatory focus of goal pursuit means) x 2 (implementation intentions) ANOVA with action initiation as the dependent variable revealed a significant three-way interaction ($F(1, 320) = 4.40, p < .05$) as graphed in Figure 5. The planned contrast analysis showed a significantly less positive effect of forming implementation intentions for prevention fit compared to the others including promotion fit, promotion nonfit, and prevention fit ($F(1, 320) = 5.34, p < .05$).

An alternative way to test the hypothesis is to apply a two-step simple effects analysis. First, the simple effects analysis showed a significant interaction effect between implementation intentions and regulatory focus of goal pursuit strategies for prevention-oriented participants ($F(1, 320) = 6.480, p < .05$) but not for promotion-oriented participants ($F(1, 320) = .220, p > .60$); then, the simple effects analysis showed a significant effect of implementation intentions for prevention nonfit ($F(1, 320) = 6.692, p < .05$) but not for prevention fit ($F(1, 320) = .853, p > .35$). Both analyses showed

consistent results. Therefore, prevention fit enjoyed the least positive effects of forming implementation intentions compared to other types of regulatory fit and hypothesis 4 was supported.

FIGURE 5

STUDY 1: REGULATORY FIT, IMPLEMENTATION INTENTIONS, AND
ACTION INITIATION



Action Persistence. Hypothesis 5 predicts that implementation intentions will have the least positive impact on action persistence for promotion fit compared to promotion nonfit, prevention fit, and prevention nonfit. A 2 (individual differences in

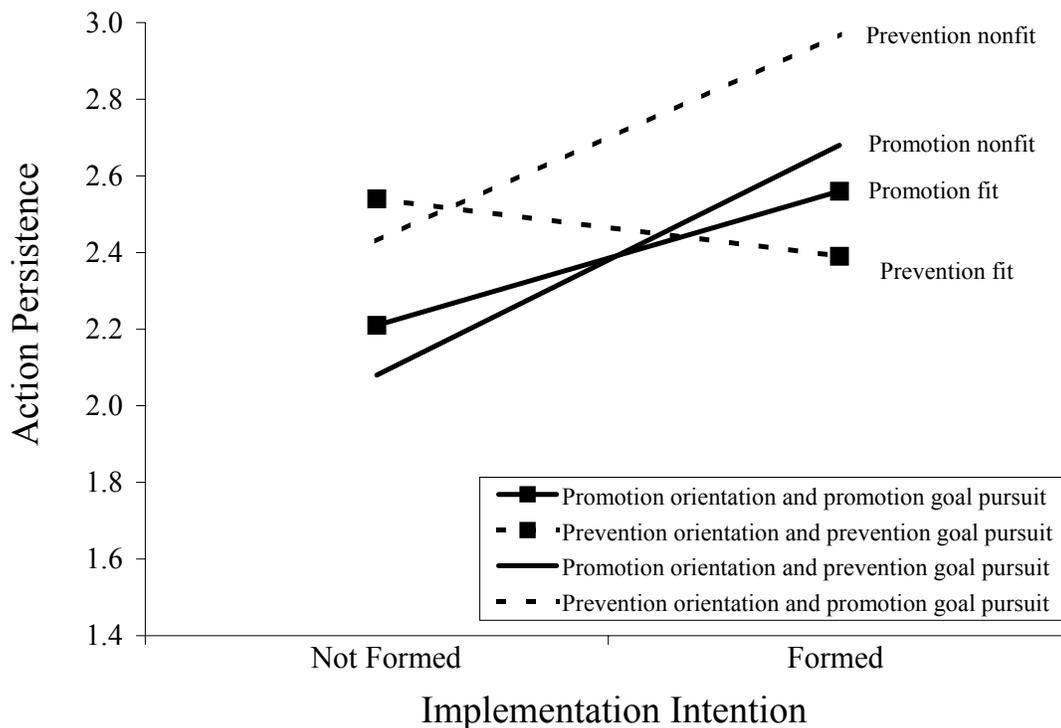
regulatory focus) x 2 (regulatory focus of goal pursuit means) x 2 (implementation intentions) ANOVA with action persistence as the dependent variable revealed only a significant main effect of forming implementation intentions ($F(1, 320) = 7.03, p < .01$) but no significant 3-way ($F(1, 320) = 3.48, p > .05$) or 2-way interactions ($F_s(1, 320) > 1.20, p_s > .25$). Therefore, hypothesis 5 was not supported.

To better understand why the hypothesis was not supported, the ANOVA result was graphed in Figure 6, followed by simple effect analysis. The simple effects analysis showed no significant interaction effects between implementation intentions and regulatory focus of goal pursuit strategies for either promotion-oriented ($F(1, 320) = .51, p > .45$) or prevention-oriented participants ($F(1, 320) = 3.76, p > .05$). Therefore, forming implementation intentions did not enhance action persistence significantly different for promotion-focused and prevention-focused participants. However, based on the mean values shown in Figure 6, participants who were prevention-oriented and given prevention-focused pursuit strategies (prevention fit) were the only group that did not improve action persistence from forming implementation intentions. It is interesting that not prevention fit but promotion fit was hypothesized to show such a pattern. Together with the findings from action initiation, prevention fit seems to be only group that does not change the time they initiate instrumental behavior or how long they perform instrumental behavior. Further research should explore the motivation of different types of regulatory fit, particularly prevention fit in terms of how and how long they perform instrumental behavior.

Study 1 indicates that, instead of providing positive impact to goal pursuit in all situations, forming implementation intentions are less likely to benefit goal pursuit for regulatory fit to enhance instrumental behavior and goal attainment, or trigger action initiation for prevention fit situations. Also, study 1 tested and provided evidence of the mediator role of instrumental behavior in goal pursuit, which has long been assumed rather than examined. Next, studies 2 and 3 incorporate framing implementation intentions as promotion- or prevention-focused to conceptualize regulatory fit and test the underlying mechanism of “value from fit.”

FIGURE 6

STUDY 1: REGULATORY FIT, IMPLEMENTATION INTENTIONS, AND
ACTION PERSISTENCE



STUDY 2: FIT BETWEEN INDIVIDUAL DIFFERENCES AND IMPLEMENTATION INTENTIONS

In study 1, the objective was to understand the interaction between regulatory fit and forming implementation plans or not. In studies 2 and 3, the objectives are twofold: 1) to incorporate implementation intentions as part of formation of regulatory fit – to apply implementation intentions as goal pursuit means and frame them as promotion- or prevention-focused to form regulatory fit/nonfit, and 2) to empirically test Higgins' notion of "value from fit" which emphasizes the heightened motivation intensity in regulatory fit situations. Implementation intentions were manipulated as promotion- or prevention-focused in both studies. Study 2 measured individual differences in regulatory orientation the same way as study 1 and manipulated implementation intentions to construct regulatory fit/nonfit, while study 3 manipulated both regulatory orientation and implementation intentions.

Based on Higgins' (2000) notion of "value from fit," it is expected that implementation intentions focused on promotion plans will generate higher motivation intensity (i.e. strength of motivation) for chronically promotion-focused versus prevention-focused people, and promotion-focused people will be more likely to perform the instrumental behavior and thus attain their goals. However, empirical studies (e.g., Shah, Higgins, and Friedman 1998) operationalized task performance as motivation intensity, instead of measuring motivation intensity and studying its role on subsequent behavior and goal attainment. Implementation intentions focused on prevention plans should be more motivating for chronically prevention-focused versus promotion-focused

people, therefore prevention-focused people should be more likely to perform instrumental behavior and attain their goals. Before the study was administered, several pretests were conducted to test the manipulation instructions (Appendix B).

Participants and Procedures

A total of 169 undergraduate students (98 females, 91 males) participated in the study for extra course credit. Participants were told that the study required them to complete two different questionnaires, with two days apart. The first questionnaire measured their regulatory focus and their usual snacking behavior, and manipulated implementation intentions. The second questionnaire was a snack report filled out at the end of the day, two days later. Pretests were conducted to test the manipulations of implementation intentions and measurement of variables before the main study was conducted (Appendix B).

In the first questionnaire, the procedures used to measure individual differences in regulatory focus were the same as in study 1³ (i.e., the RFQ was administered). Then, participants reported their snacking behavior during the past three days with regard to snack types, eating frequency, portions eaten, occasions, and social environment. Participants then evaluated their own snacking behavior by the item “Honestly, how do you evaluate your usual snacking behavior” with a 7-point unhealthy-healthy scale. Then, half of the participants were given the promotion-focused implementation intentions instructions while the other half were given the prevention-focused implementation intentions.

³ Again, measurement items of BIS/BAS were originally included in the study but we were unable to interpret the results using BIS/BAS as indicators of regulatory orientation.

Promotion-focused implementation intentions: According to nutrition experts, the most effective way to improve your snacking habit is to focus on the benefits of healthy snacking for you personally and commit yourself to eat more healthy snacks. Please pick three snacks from the healthy snack list that you would like to try eating more.

We ask you to let us know approximately when, where, and how you will eat the chosen healthy snacks. Now, imagine as vividly as possible, when you will eat the chosen healthy snacks, where you will eat them, and other details of the situation you anticipate to eat the chosen healthy snacks.

Prevention-focused implementation intentions: According to nutrition experts, the most effective way to improve your snacking habit is to focus on the drawbacks of unhealthy snacking for you personally and commit yourself to avoid eating unhealthy snacks. Please pick three snacks from the unhealthy snack list that you would like to try avoid eating.

We ask you to let us know approximately when, where, and how you will avoid eating the chosen unhealthy snacks. Now, imagine as vividly as possible, when you will avoid eating the chosen unhealthy snacks, where you will avoid eating them, and other details of the situation you anticipate to avoid eating the chosen unhealthy snacks.

The lists of healthy snacks and unhealthy snacks shown to participants are included in Appendix D. Motivation intensity to eat healthy snacks was then measured with four 7-point scale items: “How motivated are you to improve your snacking behavior?” “Improving my snacking behavior is important to me,” “How encouraged are you to improve your snacking behavior?” and “How stimulating is it to improve your snacking behavior?” They were then reminded to come back to fill out the second questionnaire. Note that the participants did not know what the second questionnaire was about.

Two days later, participants reported their snacking behavior during the day. Goal attainment was also assessed in the second questionnaire by three 7-point items: “I was able to achieve my goal of improving snacking behavior in the past two days” and “My

snacking behavior in the past two days was not improved at all,” with strongly disagree-strongly agree scales and “Compared to a few days ago, my snacking behavior is ...” with a 7-point worse-better scale. Instrumental behavior was measured by the actual number of healthy snacks consumed and whether more healthy or unhealthy snacks were consumed (it is coded as 1 – participant ate at least two unhealthy snacks more than healthy snacks; 2 – participant ate one unhealthy snack more than healthy snacks; 3 – participant ate the same number of healthy and unhealthy snacks; 4 – participant ate one healthy snacks more than unhealthy snacks; 5 – participant ate at least two healthy snacks more than unhealthy snacks).

The scores of the RFQ promotion and prevention orientation subscales were averaged to form RFQ promotion ($\alpha=.77$) and RFQ prevention (reliability $\alpha=.91$), respectively. In this analysis, participants were given a regulatory focus score, using the difference between RFQ promotion and RFQ prevention scores. The four motivation intensity items ($\alpha=.94$) and the three goal attainment items ($\alpha=.86$) were averaged respectively, and the two instrumental behavior indicators ($r=.77$) were standardized and averaged to form a snacking index. Dependent variables included in the analysis are motivation intensity, instrumental behavior, and goal attainment. No gender differences in the dependent variables – motivation intensity, instrumental behavior, and goal attainment, was found ($ps > .18$).

Results and Discussion

To test the notion of “value from fit,” three regression models were constructed to predict motivation intensity, instrumental behavior, and goal attainment from (a)

individual differences in regulatory orientation, (b) types of implementation intentions formed, and (c) the interactions between these two predictors. Following the suggestions of Cohen, Cohen, West, and Aiken (2003), the continuous predictor regulatory orientation was centered. The expected regulatory fit interaction effects were found in all three regression models as shown in Table 2, $t(168) = 3.46$ ($p < .01$) for motivation intensity, $t(168) = 2.09$ ($p < .05$) for instrumental behavior, and $t(168) = 2.47$ ($p < .05$) for goal attainment. Following the procedures suggested by Jaccard and Turrisi (2003) as expected and graphed in Figures 7-9 respectively, promotion-oriented participants reported higher motivation intensity, instrumental behavior, and goal attainment when they formed promotion-focused implementation intentions versus prevention-focused implementation intentions. In contrast, prevention-oriented participants reported higher motivation intensity, instrumental behavior, and goal attainment when they formed prevention-focused implementation intentions versus promotion-focused implementation intentions.

To test the proposed effects of motivation intensity as a mediator between regulatory fit and instrumental behavior, and between regulatory fit and goal attainment, a series of regression models were estimated based on procedures outlined by Baron and Kenny (1986). In the analysis, regulatory fit refers to two independent variables – regulatory orientation and regulatory implementation intentions as in the previous regression models.

TABLE 2
 STUDY 2: REGRESSION ANALYSIS PREDICTING GOAL PURSUIT FROM
 REGULATORY FIT BETWEEN INDIVIDUAL DIFFERENCES AND
 IMPLEMENTATION INTENTIONS

| Predictor | <i>B</i> | <i>SE B</i> | β |
|---|----------|-------------|---------|
| Predicting motivation intensity ($R^2 = .09$; $N = 169$) | | | |
| Individual differences (Ind) | -0.14 | 0.10 | -0.15 |
| Implementation intentions (Imps) | 0.01 | 0.14 | 0.003 |
| Ind x Imps | 0.47 | 0.14 | 0.39** |
| Predicting snacking behavior ($R^2 = .03$; $N = 169$) | | | |
| Individual differences (Ind) | -0.28 | 0.11 | -0.30* |
| Implementation intentions (Imps) | 0.15 | 0.15 | 0.08 |
| Ind x Imps | 0.35 | 0.15 | 0.27* |
| Predicting goal attainment ($R^2 = .09$; $N = 169$) | | | |
| Individual differences (Ind) | -0.01 | 0.10 | -0.09 |
| Implementation intentions (Imps) | 0.21 | 0.13 | 0.12 |
| Ind x Imps | 0.33 | 0.13 | 0.28* |

Notes. The regression models were estimated with all predictors entered simultaneously. Following Cohen et al. (2003), all predictors were centered.

$\wedge p < .10$. * $p < .05$. ** $p < .01$.

TABLE 3
STUDY 2: MEDIATION ANALYSIS

| Predictor | <i>B</i> | <i>SE B</i> | β |
|--|----------|-------------|-------------------|
| Predicting snacking behavior ($R^2 = .10$; $N = 169$) | | | |
| Individual differences (Ind) | -0.25 | 0.11 | -0.26* |
| Implementation intentions (Imps) | 0.15 | 0.14 | 0.08 |
| Ind x Imps | 0.23 | 0.15 | 0.18 |
| Motivation intensity | 0.25 | 0.08 | 0.24** |
| Predicting goal attainment ($R^2 = .38$; $N = 169$) | | | |
| Individual differences (Ind) | -0.003 | 0.08 | -0.03 |
| Implementation intentions (Imps) | 0.20 | 0.11 | 0.12 [^] |
| Ind x Imps | 0.06 | 0.11 | 0.05 |
| Motivation intensity | 0.57 | 0.06 | 0.59** |

Notes. The regression models were estimated with all predictors entered simultaneously. Following Cohen et al. (2003), all predictors were centered.
[^] $p < .10$. * $p < .05$. ** $p < .01$.

FIGURE 7

STUDY 2: REGULATORY FIT AND MOTIVATION INTENSITY

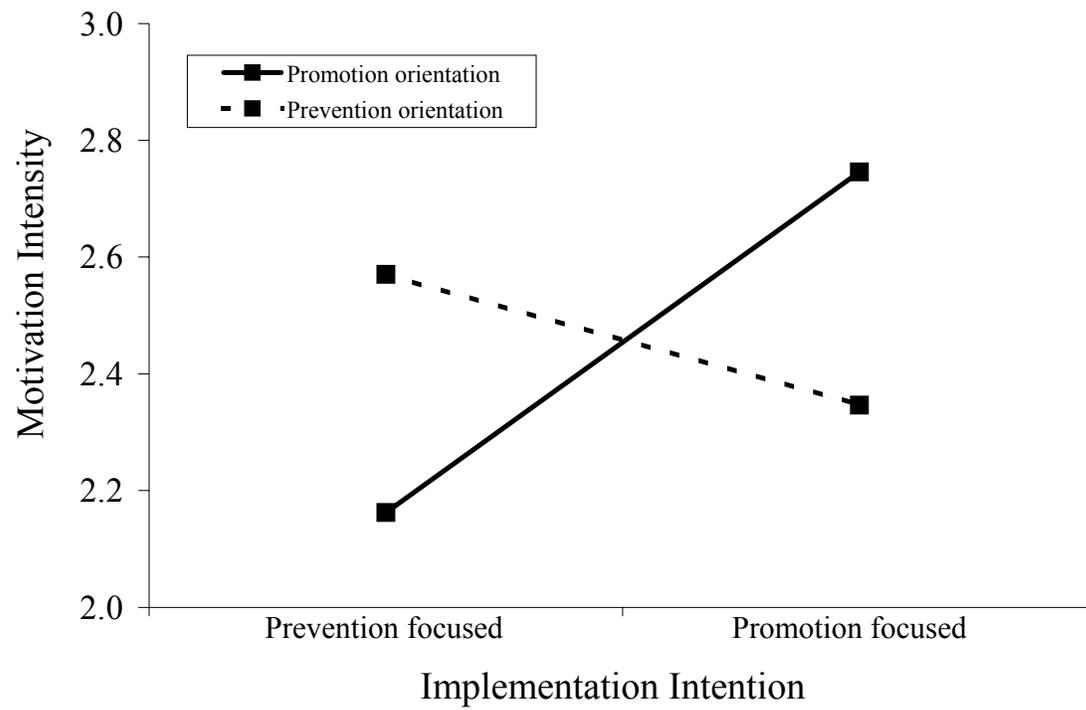


FIGURE 8

STUDY 2: REGULATORY FIT AND INSTRUMENTAL BEHAVIOR

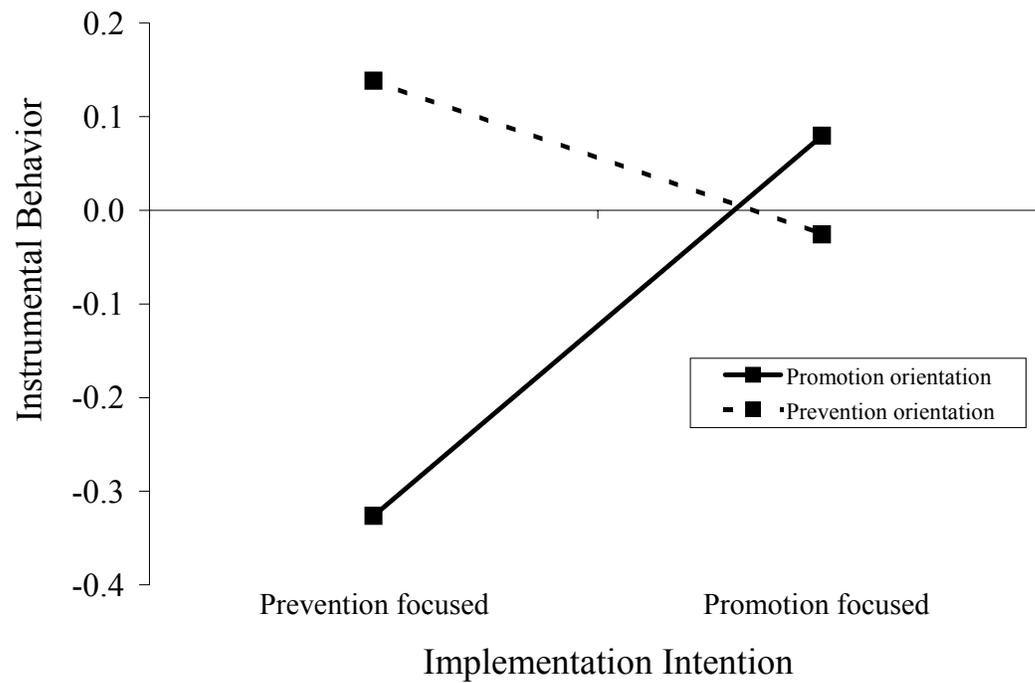
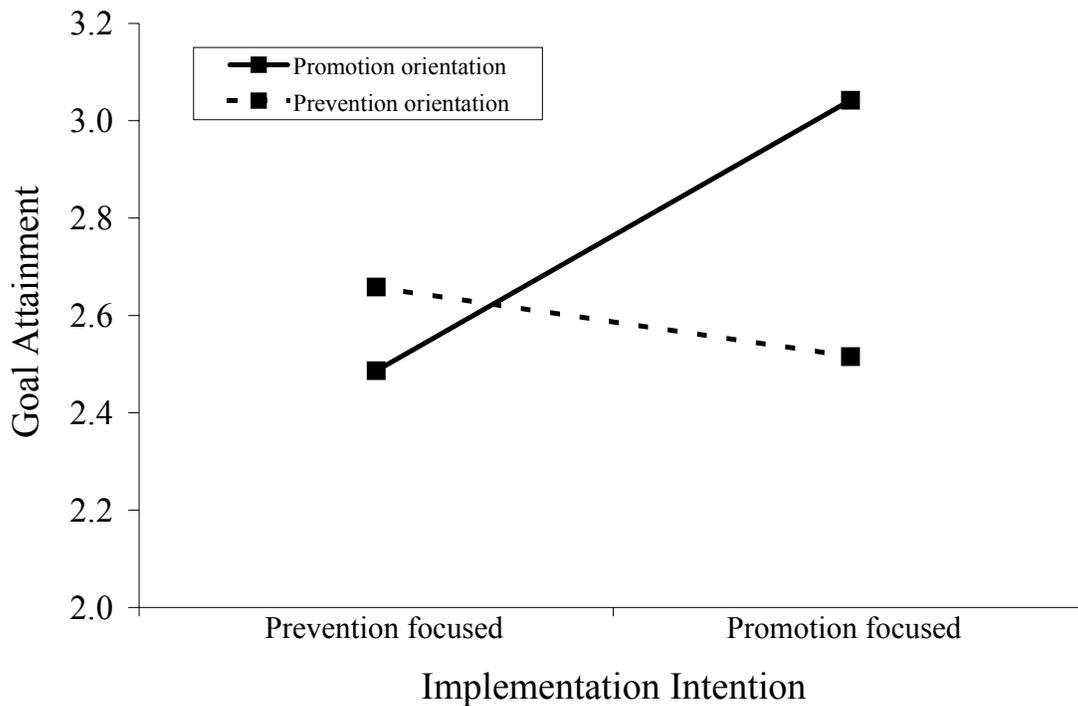


FIGURE 9

STUDY 2: REGULATORY FIT AND GOAL ATTAINMENT



To test motivation intensity as a mediator between regulatory fit and instrumental behavior, three regression models were estimated: (a) regressing motivation intensity on regulatory fit; (b) regressing instrumental behavior on regulatory fit; and (c) regressing instrumental behavior on regulatory fit and motivation intensity. As shown in Table 2, Figures 7 and 8, regulatory fit was found to significantly affect both motivation intensity ($t(168) = 3.46$ ($p < .01$)) and instrumental behavior ($t(168) = 2.47$ ($p < .05$)). The mediation effect was found, as regulatory fit no longer significantly affected behavior ($t(168) = 1.52$ ($p > .10$)) when motivation intensity was included in the model, while

motivation intensity was found to be the significant predictor ($t(168) = 3.13$ ($p < .01$)) for instrumental behavior (Table 3, part 1). Next, to test motivation intensity as mediator between regulatory fit and goal attainment, a similar set of regression models was estimated: (a) regressing motivation intensity on regulatory fit; (b) regressing goal attainment on regulatory fit; and (c) regressing goal attainment on regulatory fit and motivation intensity. As shown in Table 2, Figures 6 and 8, regulatory fit was found to significantly affect both motivation intensity ($t(168) = 2.47$ ($p < .05$)) and goal attainment ($t(168) = 2.47$ ($p < .05$)). The mediation effect was found as regulatory fit no longer significantly affected goal attainment ($t(168) = 0.56$ ($p > .55$)) when motivation intensity was included in the model, while motivation intensity was found to be the significant predictor ($t(168) = 9.08$ ($p < .01$)) for goal attainment (Table 3, part 2). In summary, study 2 provided support to the notion of “value from fit” that instrumental behavior and goal attainment are enhanced when participants formed implementation intentions fitting their regulatory focus. More importantly, this study empirically tested the mediating role of motivation intensity in goal pursuit as proposed in the regulatory fit literature. Existing literature focuses on what effects of “value from fit” are, but does not provide empirical support for the mechanism underlying the phenomenon. This study extends our understanding of consumer motivation in terms of how planning affects consumer behavior for people with different regulatory orientations.

STUDY 3: FIT BETWEEN REGULATORY ORIENTATION AND IMPLEMENTATION INTENTIONS

Studies 2 and 3 have the same objectives, namely, 1) to investigate the effects of regulatory fit on consumer goal pursuit with implementation intentions being manipulated as promotion- or prevention-focused and incorporated in the formation of regulatory fit, and 2) to empirically test the notion of “value from fit.” To generalize the findings of study 2, consumers’ regulatory orientation was manipulated in study 3 instead of being measured as in study 2. Pretests were conducted to test the manipulations of regulatory orientation and implementation intentions before the main study was administered (Appendix B).

Participants and Procedures

A total of 261 undergraduate students (124 females, 137 males) participated in the study for extra course credit. Participants were told that they were required to complete two different questionnaires on two consecutive days to receive full extra credit. The first questionnaire measured their usual snacking behavior and manipulated regulatory orientation and implementation intentions. The second questionnaire was a snack report filled out at the end of the next day. To reduce biases of demand characteristics, participants were told that these two questionnaires were unrelated and belonged to different studies.

In the first questionnaire, participants reported and rated their snacking behavior during the past three days (same as in study 2). Then, participants were randomly assigned to one of the four experiment groups: promotion orientation/promotion

implementation intentions, promotion orientation/prevention implementation intentions, prevention orientation/promotion implementation intentions, and prevention orientation/prevention implementation intentions. Participants' regulatory orientation was manipulated by asking participants to read one of the two articles that explained either the benefits of healthy snacking (promotion-focused) or the harms of unhealthy snacking (prevention-focused). Each article was about 300 words in length (Appendix E). The same procedures as in study 2 were used to manipulate regulatory focus of implementation intentions, as well as measure motivation intensity (4-item scale). At the end of the next day, participants reported their snacking behavior during the day for the second questionnaire. Instrumental behavior of snacking and goal attainment were assessed with the same indicators as those used in study 2.

The four motivation intensity items ($\alpha=.87$) and three goal attainment items ($\alpha=.85$) were averaged respectively, and the two instrumental behavior indicators ($r=.86$) were standardized and averaged to form a snacking index. Dependent variables included in the analysis were motivation intensity, instrumental behavior, and goal attainment. No gender differences in the dependent variables – motivation intensity, instrumental behavior, and goal attainment, was found ($ps > .43$).

Results and Discussion

Three 2 (regulatory orientation) x 2 (regulatory focus of implementation intentions) ANOVAs with motivation intensity, instrumental behavior, and goal attainment as dependent variables were conducted. These analyses replicated the results of study 2 and revealed three significant interactions (motivation intensity: $F(1, 260) =$

20.09, $p < .01$; instrumental behavior: $F(1, 260) = 9.60, p < .01$; goal attainment: $F(1, 260) = 4.69, p < .05$;) respectively, as shown in Table 4, Figures 10, 11, and 12. Planned contrast analysis showed that participants with promotion orientations had higher motivation intensities ($t(132) = 4.56, p < .01$), instrumental behaviors ($t(132) = 2.86, p < .01$), and goal attainments ($t(132) = 6.04, p < .01$), when they formed promotion implementation intentions, than prevention implementation intentions; and participants with prevention orientations had higher motivation intensities ($t(125) = 3.26, p < .01$) and goal attainments ($t(125) = 5.43, p < .01$) when they formed prevention implementation intentions, than promotion implementation intentions. For participants with prevention orientations, effects on instrumental behavior ($t(125) = 1.29, p > .15$) were not significant.

Next, mediation effects of motivation intensity between regulatory fit and instrumental behavior, and between regulatory fit and goal attainment were tested. Using the same approach applied in study 1, a 3-step mediation analysis was performed. First, a 2 (regulatory orientation) x 2 (regulatory focus of implementation intentions) MANOVA with motivation intensity and instrumental behavior as dependent variables revealed a significant interaction with $F(2, 256) = 6.67 (p < .01)$. Second, two 2-way ANOVAs of motivation intensity and instrumental behavior also showed the interaction effects with $F(1, 260) = 20.09 (p < .01)$ and $F(1, 260) = 9.60 (p < .01)$, respectively. Third, a 2-way instrumental behavior with motivation intensity as covariate showed a non-significant interaction of regulatory fit ($F(1, 260) = 2.27, p > .13$), but a significant effect of

motivation intensity ($F(1, 260) = 17.11, p < .01$). Therefore, motivation intensity was found to mediate the effects of regulatory fit on instrumental behavior.

TABLE 4
STUDY 3: REGULATORY FIT AND GOAL PURSUIT

| | Prevention implementation intention | | Promotion implementation intention | |
|-----------------------|--|-----------------------|---------------------------------------|-----------------------|
| | Promotion article | Prevention article | Promotion article | Prevention article |
| Instrumental behavior | .74 (.84) | 1.05 (1.07) | 1.27 (1.27) | .82 (.99) |
| <i>n</i> = | 68 | 64 | 63 | 66 |
| Goal attainment | 2.48 (.67) | 3.37 (0.79) | 3.27 (.76) | 2.58 (.85) |
| <i>n</i> = | 68 | 64 | 63 | 66 |
| Motivation intensity | 2.75 (1.11) | 3.19 (.58) | 3.46 (.60) | 2.79 (.81) |
| <i>n</i> = | 68 | 64 | 63 | 66 |

FIGURE 10

STUDY 3: REGULATORY FIT AND MOTIVATION INTENSITY

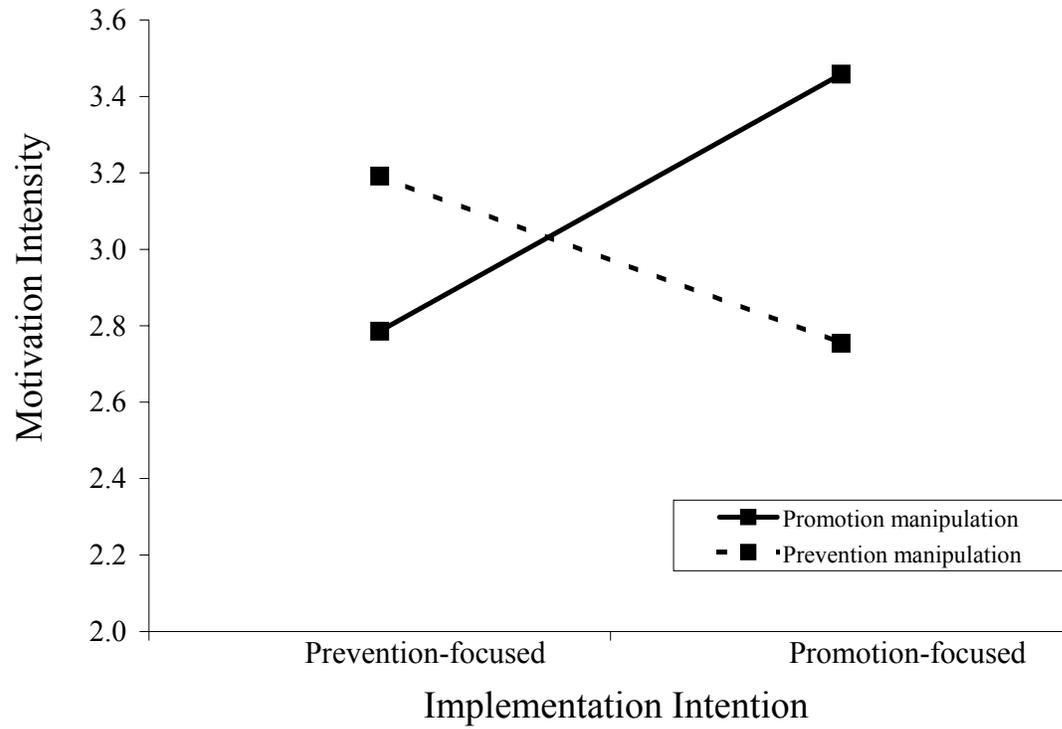


FIGURE 11

STUDY 3: REGULATORY FIT AND INSTRUMENTAL BEHAVIOR

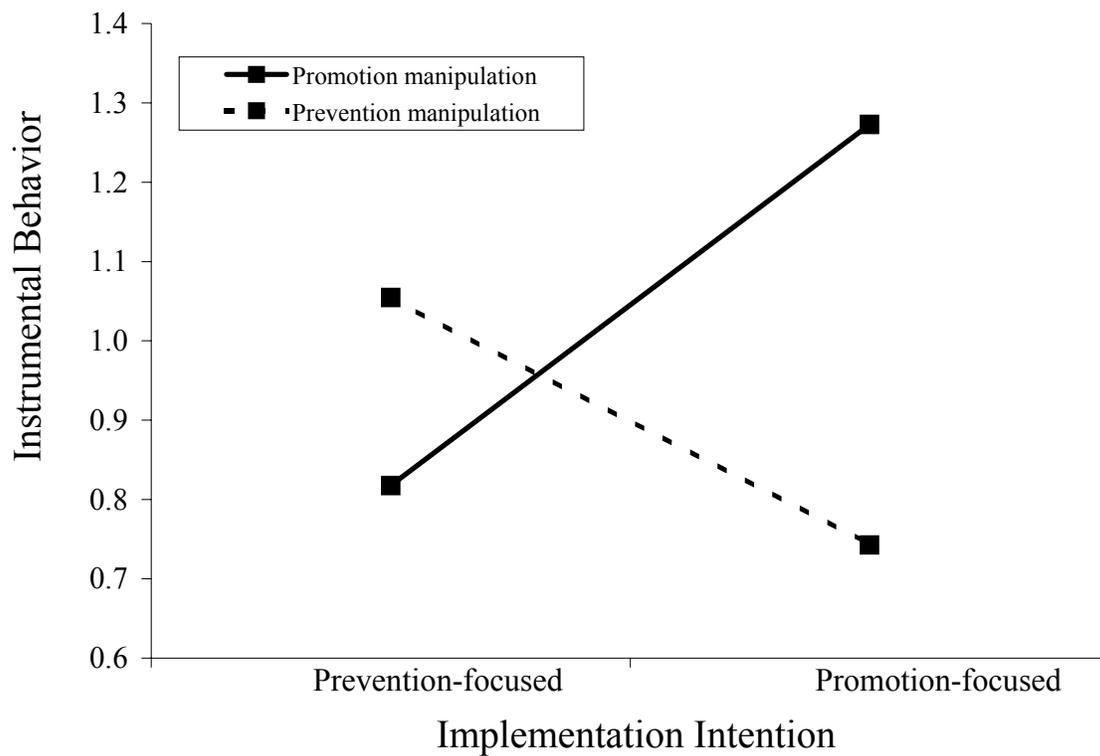
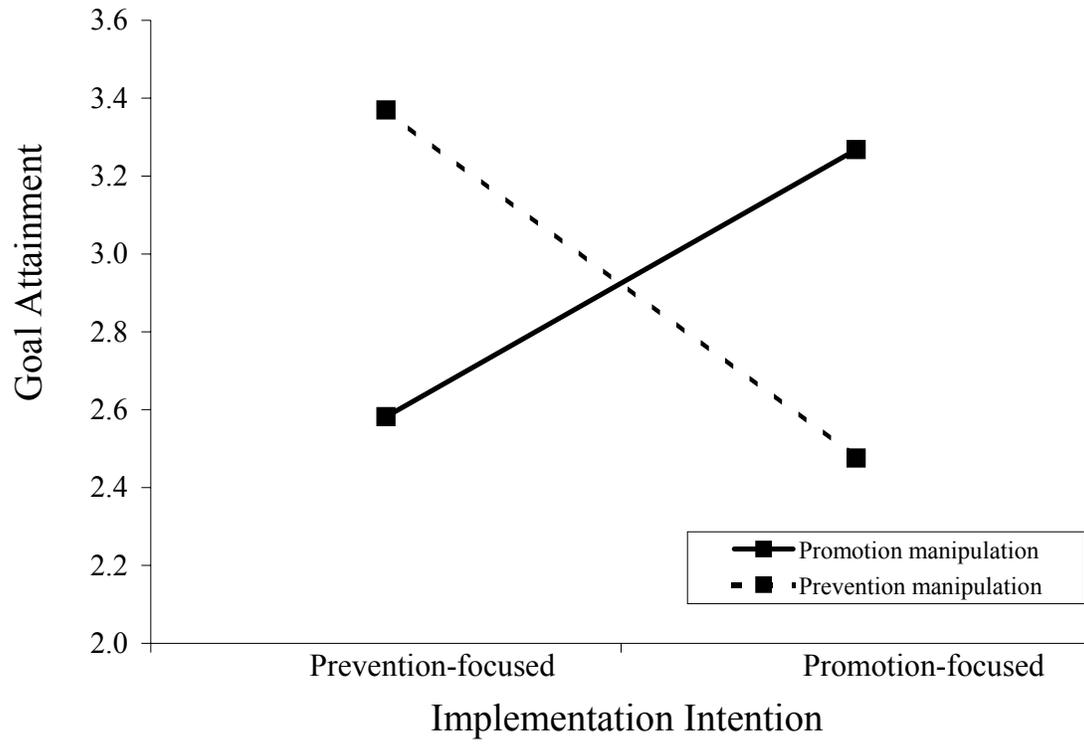


FIGURE 12

STUDY 3: REGULATORY FIT AND GOAL ATTAINMENT



To test motivation intensity as mediator between regulatory fit and goal attainment, a similar analysis was performed. First, a 2 (regulatory orientation) x 2 (regulatory focus of implementation intentions) MANOVA with motivation intensity and goal attainment as dependent variables revealed a significant interaction with $F(2, 260) = 14.53$ ($p < .01$). Second, two 2-way ANOVAs of motivation intensity and instrumental behavior also showed the interaction effects with $F(1, 260) = 20.09$ ($p < .01$) and $F(1, 260) = 4.69$ ($p < .01$), respectively. Third, a 2-way of instrumental behavior with motivation intensity as covariate showed a significant interaction of regulatory fit ($F(1, 260) = 5.51$, $p < .01$) and a significant effect of motivation intensity ($F(1, 260) = 6.71$, $p < .01$). Therefore, motivation intensity was not found to mediate the effects of regulatory fit on goal attainment; regulatory fit had direct effects on both motivation intensity and goal attainment.

Study 3 replicated the results found in study 2. Studies 2 and 3 provided consistent evidence to the notion of “value from fit” that motivation intensity, instrumental behavior and goal attainment are enhanced when participants formed implementation intentions fitting their regulatory focus. More importantly, this study empirically tested the mediating role of motivation intensity in the regulatory fit-instrumental behavior link. However, the mediation effect of motivation intensity between regulatory fit and goal attainment was only found in study 2, but not study 3.

GENERAL DISCUSSION AND CONCLUSIONS

There were three research questions that this dissertation attempted to answer. First, are the beneficial effects of forming implementation intentions stronger in the regulatory fit or regulatory nonfit situations? In contrast to the common belief held in marketing that planning is generally beneficial to consumers' goal pursuit processes by facilitating instrumental behavior and enhancing goal attainment, this research demonstrates that regulatory fit is a key factor moderating the impact of implementation intentions on goal pursuit. Study 1 examined this moderating effect in an actual behavior, receipt-collecting, a setting that resembles the common stamp-collecting promotion tactic used in marketing. Results from study 1 show that consumers in regulatory fit conditions (promotion-focused consumers with promotion-focused goal pursuit means or prevention-focused consumers with prevention-focused goal pursuit means) did not collect more receipts or improve their goal attainment as much as consumers in regulatory nonfit conditions (promotion-focused consumers with prevention-focused goal pursuit means or prevention-focused consumers with promotion-focused means). Specifically, prevention-focused consumers who are given prevention-focused means (prevention fit) did not initiate their receipt-collecting behavior earlier by forming implementation intentions, compared to other consumers.

Second, what are the impacts on consumer goal pursuit if we formulate implementation plans in a promotion focus or prevention focus manner? Will instrumental behavior and goal attainment be enhanced and demonstrated the notion of "value from fit" when there is regulatory fit between implementation intentions and

consumers' regulatory orientations? In the light of regulatory fit research, this study also demonstrates that implementation intentions can be formed in different regulatory focus manners and influence the goal pursuit process differently. Consumers were found to eat more healthy snacks and improve their snacking when they form implementation intentions that match their regulatory orientation. This finding generalizes across individual (study 2) and situational differences (study 3) in regulatory focus (study 2).

Third, what is the underlying mechanism of this “value from fit” phenomenon? Studies 2 and 3 show that the “value from fit” effects – instrumental behavior and goal attainment were enhanced when there is regulatory fit between regulatory orientation and implementation intentions, result from heightened motivation intensity.

These findings contribute to motivation research in several ways. First, previous research has shown that forming implementation intentions “facilitates goal pursuit, in particular when goal pursuit is confronted with implemental problems” (Gollwitzer, Fujita, and Oettingen 2004, p. 211). This research extends and qualifies the current findings in the literature by integrating regulatory fit theory and the implementation intentions literature and demonstrating that the fit between consumers' regulatory orientation and their goal pursuit means is also a key factor moderating the impact of implementation intentions on the goal pursuit process.

Second, this research also extends the current regulatory fit conceptualization from fit/nonfit to different types of regulatory fit/nonfit. Though the hypothesis on action persistence was not supported, the finding on action initiation suggests an intriguing new avenue of regulatory fit research. Third, to the best of our knowledge the present research

is the first to empirically test the underlying mechanisms of the notion “value from fit” proposed by Higgins (2000). This research shows that heightened motivation intensity from regulatory fit explains the increased instrumental behavior frequency as well as higher goal attainment.

The findings reported in the research also suggest new research directions. Previous research has found when and how planning or forming implementation intentions can help people better perform goal-directed actions and thus lead to goal attainment. The next question is, when and how planning will not facilitate the performance of goal-directed actions. The current research identified that forming implementation intentions cannot facilitate consumers to perform goal-directed actions when there is regulatory fit. Consumer researchers could also investigate other conditions that may hinder the beneficial effects of forming implementation intentions such as competitive implementation plans.

In this study, participants formed implementation plans for the coming few days. Future research could investigate the effects of forming implementation plans on a daily basis, which is a common consumer practice, to understand how implementation intentions influence consumer life. In particular, consumers in regulatory nonfit conditions may not benefit from implementation intentions more than consumers in regulatory fit conditions, when they form too many implementation plans.

Future research could also draw on the habit and automaticity literature (e.g. Bargh 2002; Wood, Quinn, and Kashy 2002) to explore the effects of forming promotion or prevention implementation intentions on habit formation as “in most cases, habits are

formed due to the repeated and successful execution of implementing intentions” (Bagozzi and Dholakia 2005, p.29). Specifically, consumers with promotion orientations may develop stronger habits from forming and implementing promotion plans than prevention plans, and consumers with prevention orientations may develop habits in a shorter period of time from forming prevention implementation plans than promotion implementation plans.

In conclusion, the present research examines and provides evidence for an unexplored aspect of consumer behavior, regarding how and when psychological processes underlying two motivation literature streams – implementation intentions and regulatory fit - come together to influence consumers’ goal pursuit processes. This research challenges the notion that planning is always beneficial by showing the conditions under which the effects of forming implementation intentions can be minimal or even negative, especially the mismatched types of implementation intentions.

REFERENCES

- Aaker, Jennifer L., and Angela Y. Lee (2001), "'I' Seek Pleasures and 'We' Avoid Pains: The Role of Self-regulatory Goals in Information Processing and Persuasion," *Journal of Consumer Research*, 28 (June), 33-49.
- Aarts, Henk, Ap Dijksterhuis, and Cees Midden (1999), "To Plan or Not to Plan? Goal Achievement or Interrupting the Performance of Mundane Behaviors," *European Journal of Social Psychology*, 29 (December), 971-9.
- Ajzen, Icek (1985), "From Intention to Actions: A Theory of Planned Behavior," in *Action Control: From Cognition to Behavior*, ed. Julius Kuhl and Jurgen Beckman, Berlin, Germany: Springer-Verlag, 11-39.
- Atkinson, John W. (1964), *An Introduction to Motivation*, Princeton, NJ: Van Nostrand.
- Avnet, Tamar and E. Tory Higgins (2003), "Locomotion, Assessment, and Regulatory Fit: Value Transfer from 'How' to 'What'," *Journal of Experimental Social Psychology*, 39 (September), 525-30.
- Bagozzi, Richard P. (1992), "The Self-Regulation of Attitudes, Intentions, and Behavior," *Social Psychology Quarterly*, 55 (June), 178-204.
- Bagozzi, Richard P. (2004), "Consumer Action: The Role of Intentionality, Emotion, Society, and Agency," in *The 16th Converse Symposium*, ed. Abbie Griffin and Cele Otnes, Chicago, IL: American Marketing Association, forthcoming.
- Bagozzi, Richard P., Hans Baumgartner, and Youjae Yi (1992), "Appraisal Processes in the Enactment of Intentions to Use Coupons," *Psychology and Marketing*, 9 (November/December), 469-486.

- Bagozzi, Richard P. and Utpal M. Dholakia (1999), "Goal Setting and Goal Striving in Consumer Behavior," *Journal of Marketing*, 63 (special issue), 19-32.
- Bagozzi, Richard P., and Utpal M. Dholakia (2005), "Three Roles of Past Experience in Goal Setting and Goal Striving," in *The Routines of Decision Making*, ed. Tilmann Betsch and Susanne Haberstroh, Mahwah, NJ: Erlbaum, 21-38.
- Bagozzi, Richard P., Utpal M. Dholakia, and Suman Basuroy (2003). "How Effortful Decisions Get Enacted: The Motivating Role of Decision Processes, Desires, and Anticipated Emotions," *Journal of Behavioral Decision Making*, 16 (October), 273-95.
- Bagozzi, Richard P. and Elizabeth A. Edwards (2000), "Goal-Striving and the Implementation of Goal Intentions in the Regulation of Body Weight," *Psychology and Health*, 15 (March), 255-270.
- Bagozzi, Richard P. and Paul R. Warshaw (1990), "Trying to Consumer," *Journal of Consumer Research*, 17 (September), 127-40.
- Bargh, John A. (2002), "Losing Consciousness: Automatic Influences on Consumer Judgment, Behavior, and Motivation," *Journal of Consumer Research*, 29 (September), 280-5.
- Bargh, John A., Ronald N. Bond, Wendy J. Lombardi, and Mary E. Tota (1986), "The Additive Nature of Chronic and Temporary Sources of Construct Accessibility," *Journal of Personality and Social Psychology*, 50 (May), 869-78.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and

- Statistical Considerations,” *Journal of Personality and Social Psychology*, 51 (June), 1173-82.
- Belk, Russell W. (1985), “Issues in the Intention-Behavior Discrepancy,” *Research in Consumer Behavior*, 1 (January), 1-34.
- Bianco, Amy Taylor, E. Tory Higgins, and Adena Klem (2003), “How ‘Fun/Importance’ Fit Affects Performance: Relating Implicit Theories to Instructions,” *Personality and Social Psychology Bulletin*, 29 (September), 1091-103.
- Brandimonte, Maria, Gilles O. Einstein, and Mark A. McDaniel (1996), *Prospective Memory: Theory and Applications*, Mahwah, NJ: Erlbaum.
- Brandstatter, Veronika, Dorte Heimbeck, Juliane T. Malzacher, and Michael Frese (2003), “Goals Need Implementation Intentions: The Model of Action Phases Tested in the Applied Setting of Continuing Education,” *European Journal of Work and Organizational Psychology*, 12 (March), 37-59.
- Brandstatter, Veronika, Angelika Lengfelder, and Peter M. Gollwitzer (2001), “Implementation Intentions and Efficient Action Initiation,” *Journal of Personality and Social Psychology*, 81 (May), 946-60.
- Bray, James H. and Scott E. Maxwell (1985), *Multivariate Analysis of Variance*, Beverly Hills: Sage.
- Buehler, Roger, Dale Griffin, and Michael Ross (2002), *Heuristics and Biases: The Psychology of Intuitive Judgment*, ed. Thomas Gilovich, Dale Griffin, and Daniel Kahneman, New York: Cambridge University Press, 250-70.

- Camacho, Christopher J., E. Tory Higgins, and Lindsay Luger (2003), "Moral Value Transfer From Regulatory Fit: What Feels Right Is Right and What Feels Wrong Is Wrong," *Journal of Personality and Social Psychology*, 84 (March), 498-510.
- Carver, Charles S. and Teri L. White (1994), "Behavioral Inhibition, Behavioral Activation, and Affective Responses to Impeding Reward and Punishment: The BIS/BAS Scales," *Journal of Personality and Social Psychology*, 67 (February), 319-33.
- Cesario, Joseph, Heidi Grant, and E. Tory Higgins (2004), "Regulatory Fit and Persuasion: Transfer from 'Feeling Right,'" *Journal of Personality and Social Psychology*, 86 (March), 388-404.
- Chasteen, Alison L., Denise C. Park, and Nobert Schwarz (2001), "Implementation Intentions and Facilitation of Prospective Memory," *Psychological Science*, 12 (November), 457-461.
- Cohen, Jacob (1992), "A Power Primer," *Psychological Bulletin*, 112 (July), 155-9.
- Crowe, Ellen, and E. Tory Higgins (1997), "Regulatory Focus and Strategic Inclinations: Promotion and Prevention in Decision-Making," *Organizational Behavior and Human Decision Processes*, 69 (February), 117-32.
- Dholakia, Uptal and Richard P. Bagozzi (2003), "As Time Goes By: How Goal and Implementation Intentions influence Enactment of Short-Fuse Behaviors," *Journal of Applied Social Psychology*, 33 (May), 889-922.

- Dholakia, Uptal, Richard P. Bagozzi, and Mahesh Gopinath (2005), "How Formulating Implementation Plans and Remembering Past Actions Facilitate the Enactment of Effortful Decisions," Manuscript under review.
- Fishbein, Martin and Icek Ajzen (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Reading, MA: Addison-Wesley.
- Forster, Jens, E. Tory Higgins, and Amy Taylor Bianco (2003), "Speed/Accuracy Decisions in Task Performance: Built-In Trade-Off or Separate Strategic Concerns?" *Organizational Behavior and Human Decision Processes*, 90 (January), 148-64.
- Freitas, Antonio and E. Tory Higgins (2002), "Enjoying Goal-Directed Action: The Role of Regulatory Fit," *Psychological Science*, 13 (January), 1-6.
- Freitas, Antonio L., Nira Liberman, and E. Tory Higgins (2002), "Regulatory Fit and Resisting Temptation During Goal Pursuit," *Journal of Experimental Social Psychology*, 38 (May), 291-8.
- Freitas, Antonio L., Nira Liberman, Peter Salovey, and E. Tory Higgins (2002), "When to Begin? Regulatory Focus and Initiating Goal Pursuit," *Personality and Social Psychology Bulletin*, 28 (January), 121-30.
- Gollwitzer, Peter M. (1990). "Action Phases and Mind-sets," In *Handbook of Motivation and Cognition*, ed. E. Tory Higgins and Richard M. Sorrentino, New York: Guilford, 53-92.
- Gollwitzer, Peter M. (1993), "Goal Achievement: The Role of Intentions," *European Review of Social Psychology*, 4 (January), 141-185.

- Gollwitzer, Peter M. (1996). "The Volitional Benefits of Planning". in *The Psychology of Action: Linking Cognition and Motivation to Behavior*, ed. Peter M. Gollwitzer and John a. Bargh, New York: Guilford, 287-312.
- Gollwitzer, Peter M. (1999), "Implementation Intentions: Strong Effects of Simple Plans," *American Psychologist*, 54 (July), 493-503.
- Gollwitzer, Peter M. and Ute Bayer (1999), "Deliberative versus Implemental Mindsets in the Control of Action," in *Dual-Process Theories in Social Psychology*, ed. Shelly Chaiken and Yaacov Trope, New York: Guilford, 403-22.
- Gollwitzer, Peter M. and Veronika Brandstatter (1997), "Implementation Intentions and Effective Goal Pursuit," *Journal of Personality and Social Psychology*, 73 (January), 186-99.
- Gollwitzer, Peter M., Kentaro Fujita, and Gabriele Oettingen (2004), "Planning and the Implementation of Goals," in *Handbook of Self-Regulation: Research, Theory, and Applications*, ed. Roy F. Baumeister and Kathleen D. Vohs, New York: Guilford, 211-28.
- Gollwitzer, Peter M. and Bernd Schaal (1998), "Metacognition in Action: The Importance of Implementation Intentions," *Personality and Social Psychology Review*, 2 (February), 124-136.
- Heckhausen, Heinz (1991), *Motivation and Action*, New York: Spring-Verlag.
- Higgins, E. Tory (1997), "Beyond Pleasure and Pain," *American Psychologist*, 52 (December), 1280-1300.

- Higgins, E. Tory (2000), "Making a Good Decision: Value From Fit," *American Psychologist*, 55 (November), 1217-30.
- Higgins, E. Tory (2002), "How Self-Regulation Creates Distinct Values: The Case of Promotion and Prevention Decision Making," *Journal of Consumer Psychology*, 12 (May), 177-91.
- Higgins, E. Tory, Ronald S. Friedman, Robert E. Harlow, Lorraine C. Idson, Ozlem N. Ayduk, and Amy Taylor (2001), "Achievement Orientations from Subjective Histories of Success: Promotion Pride versus Prevention Pride," *European Journal of Social Psychology*, 31 (January-February), 3-23.
- Higgins, E. Tory, Lorraine C. Idson, Antonio L. Freitas, Scott Spiegel, and Daniel C. Molden (2003), "Transfer of Value From Fit," *Journal of Personality and Social Psychology*, 84 (June), 1140-53.
- Higgins, E. Tory, Christopher Roney Jr., Ellen Crowe, and Charles Hymes (1994), "Ideal Versus Ought Predilections for Approach and Avoidance: Distinct Self-regulatory Systems," *Journal of Personality and Social Psychology*, 66 (February), 276-86.
- Higgins, E. Tory, James Shah, and Ronald S. Friedman (1997), "Emotional Responses to Goal Attainment: Strength of Regulatory Focus as Moderator," *Journal of Personality and Social Psychology*, 72 (March), 515-25.
- Higgins, E. Tory and Scott Spiegel (2004), "Promotion and Prevention Strategies for Self-Regulation," in *Handbook of Self-Regulation: Research, Theory, and Applications*, ed. Roy F. Baumeister and Kathleen D. Vohs, New York: Guilford, 171-187.

- Idson, Lorraine Chen and E. Tory Higgins (2000), "How Current Feedback and Chronic Effectiveness Influence Motivation: Everything to Gain versus Everything to Lose," *European Journal of Social Psychology*, 30 (July-August), 583-92.
- Idson, Lorraine Chen, Nira Liberman, and E. Tory Higgins (2000), "Distinguishing Gains from Nonlosses and Losses from Nongains: A Regulatory Focus Perspective on Hedonic Intensity," *Journal of Experimental Social Psychology*, 36 (May), 252-74.
- Idson, Lorraine Chen, Nira Liberman, and E. Tory Higgins (2004), "Imagining How You'd Feel: The Role of Motivational Experiences From Regulatory Fit," *Personality and Social Psychology Bulletin*, 30 (July), 926-37.
- Jaccard, James and Robert Turrise (2003), *Interaction Effects in Multiple Regression*, London: Sage.
- Keppel, Geoffrey and Thomas D. Wickens (2004), *Design and Analysis: A Researcher's Handbook*, Upper Saddle River, New Jersey: Prentice Hall.
- Koestner, Richard, Natasha Lekes, Theodore A. Powers, and Emanuel Chicoine (2002), "Attaining Personal Goals: Self-Concordance Plus Implementation Intentions Equals Success," *Journal of Personality and Social Psychology*, 83 (January), 231-44.
- Koole, Sander and Mascha Van't Spijker (2000), "Overcoming the Planning Fallacy Through Willpower: Effects of Implementation Intentions on Actual and Predicted Task-Completion Times," *European Journal of Social Psychology*, 30 (November-December), 873-88.

- Lee, Angela Y., and Jennifer Aaker (2004), "Bringing the Frame into Focus: The Influence of Regulatory Fit on Processing Fluency and Persuasion" *Journal of Personality and Social Psychology*, 86 (February), 205-18.
- Leone, Luigi, Marco Perugini, and Richard P. Bagozzi (2005), "Emotions and Decision Making: Regulatory Focus Moderates the Motivational Influence of Anticipated Emotions on Attitudes," *Cognition and Emotion*, forthcoming.
- Milne, Sarah, Sheina Orbell, and Paschal Sheeran (2002), "Combining Motivational and Volitional Interventions to Promote Exercise Participation: Protection Motivation Theory and Implementation Intentions," *British Journal of Health Psychology*, 7 (May), 163-84.
- O'Shaughnessy, John (1987), *Why People Buy*, New York: Oxford University Press.
- Oettingen, Gabriele and Peter M. Gollwitzer (2001), "Goal Setting and Goal Striving," in *The Blackwell Handbook of Social Psychology*, ed. Abraham Tesser and Norbert Schwarz, Oxford, UK: Blackwell, 329-47.
- Orbell, Sheina, Sarah Hodgkins, and Paschal Sheeran (1997), "Implementation Intentions and the Theory of Planned Behavior," *Personality and Social Psychology Bulletin*, 23 (September), 945-54.
- Orbell, Sheina and Paschal Sheeran (2000), "Motivational and Volitional Processes in Action Initiation: A Field Study of the Role of Implementation Intentions," *Journal of Applied Social Psychology*, 30 (April), 780-97.

- Shah, James and E. Tory Higgins (1997), "Expectancy x Value Effects: Regulatory Focus as a Determinant of Magnitude and Direction," *Journal of Personality and Social Psychology*, 73 (March), 447-458.
- Shah, James, E. Tory Higgins, and Ronald S. Friedman (1998), "Performance Incentives and Means: How Regulatory Focus Influences Goal Attainment," *Journal of Personality and Social Psychology*, 74 (February), 285-293.
- Sheeran, Paschal (2002), "Intention-Behavior Relations: A Conceptual and Empirical Review," *European Review of Social Psychology*, 11, 1-36.
- Sheeran, Paschal and Sheina Orbell (1999), "Implementation Intentions and Repeated Behavior: Augmenting the Predictive Validity of the Theory of Planned Behavior," *European Journal of Social Psychology*, 29 (March-May), 349-69.
- Sheppard, Blair H., Jon Hartwick, and Paul R. Warshaw (1998), "The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research," *Journal of Consumer Research*, 15 (December), 325-43.
- Spiegel, Scott, Heidi Grant-Pillow, and E. Tory Higgins (2004), "How Regulatory Fit Enhances Motivational Strength During Goal Pursuit," *European Journal of Social Psychology*, 34 (January-February), 39-54.
- Taylor, Shelly E., Lien B. Pham, Inna D. Rivkin, and David A. Armor (1998), "Harnessing the Imagination: Mental Simulation, Self-Regulation, and Coping," *American Psychologist*, 53 (April), 429-439.

- Verplanken, Bas and Suzanne Faes (1999), "Good Intentions, Bad Habits, and Effects of Forming Implementation Intentions on Healthy Eating" *European Journal of Social Psychology*, 29 (August-September), 591-604.
- Wood, Wendy, Jeffrey M. Quinn, and Deborah A. Kashy (2002), "Habits in Everyday Life: Thought, Emotion, and Action," *Journal of Personality and Social Psychology*, 83 (June), 1281-97.
- Wood, Wendy, Jeffrey M. Quinn, and David Neal (2005), "The Power of Repetition in Daily Life: Habits and Intentions Guide Action," Manuscript under review.

APPENDIX A

LIST OF CONSTRUCT DEFINITIONS

| Construct/Variable | Definition |
|--------------------------|--|
| Desirability of Goal | <ul style="list-style-type: none"> - “How desirable is the goal?” - The utility or value of a particular goal alternative |
| Feasibility of Goal | <ul style="list-style-type: none"> - “How feasible is it to attain the goal?” - The probability, expectancy, and belief of goal attainment |
| Goal Intention | <ul style="list-style-type: none"> - “What is it for which I pursue?” - The decision to pursue a particular goal |
| Implementation Intention | <ul style="list-style-type: none"> - “When, where, how, and how long should I act?” - The explicit plans that link instrumental behavior with contextual features that signify an opportunity for the behavior |
| Instrumental Behavior | <ul style="list-style-type: none"> - “Do I behave as planned?” - To perform the chosen instrumental acts to attain a particular goal |
| Goal Attainment | <ul style="list-style-type: none"> - “To what degree have I achieved my goal?” - The comparison of outcome achieved with the chosen goal |
| Regulatory Fit | <ul style="list-style-type: none"> - “Does the goal pursuit strategy fit my regulatory orientation?” - The match of regulatory focus between goal pursuit strategy and an individual’s orientation |
| Goal Setting | <ul style="list-style-type: none"> - “What are the goals I can and want to pursue?” - The process of evaluating goal alternatives and choosing a goal |
| Goal Pursuit | <ul style="list-style-type: none"> - “How can I attain my chosen goal?” - The process of planning, enacting, monitoring, and performing of instrumental acts and evaluating the outcome |
| Action Initiation | <ul style="list-style-type: none"> - “When do I start acting my instrumental behavior?” - The time a person chooses to start instrumental behavior |
| Action Persistence | <ul style="list-style-type: none"> - “How long do I keep acting my instrumental behavior?” - Length of time a person chooses to perform instrumental acts |
| Motivation Intensity | <ul style="list-style-type: none"> - “How much am I willing to act?” - The strength of motivation that drives action |

Source: Bagozzi and Dholakia (2005)

APPENDIX B

PRETESTS FOR STUDIES 1-3

| Pretest | Pretest manipulations/instructions | Participants (N) | Used in |
|------------|--|---------------------|------------|
| Pretest 1 | Goal pursuit instructions - testing \$3.50 and \$7.50 for 4 receipts in 7 days and diary requirement | 31 | Study 1 |
| Pretest 2 | Goal pursuit instructions - testing \$4.00 and \$6.00 for 4 receipts in 7 days | 34 | Study 1 |
| Pretest 3 | Goal pursuit instructions - testing \$5.00 and \$6.00 for 2 receipts in 3 days - testing implementation intentions manipulations (version 1) | 97 | Study 1 |
| Pretest 4 | Goal pursuit instructions - testing \$5.00 and \$7.00 for 2 receipts in 3 days - testing implementation intentions manipulations (version 2) | 104 | Study 1 |
| Pretest 5 | Overall procedures and set up | 115 | Study 1 |
| Pretest 6 | Implementation intentions - testing promotion/prevention instructions (version 1) - testing motivation intensity items | 126 | Study 2, 3 |
| Pretest 7 | Implementation intentions - testing promotion/prevention instructions (version 2) - testing motivation intensity items | 96 | Study 2, 3 |
| Pretest 8 | Overall procedures and set up | 87 | Study 2 |
| Pretest 9 | Regulatory orientation manipulations - testing promotion/prevention article (version 1) | 42 | Study 3 |
| Pretest 10 | Regulatory orientation manipulations - testing promotion/prevention article (version 2) | 35 | Study 3 |
| Pretest 11 | Regulatory orientation manipulations - testing promotion/prevention article (version 3) | 21 | Study 3 |
| Pretest 12 | Overall procedures and set up | 120 | Study 3 |

APPENDIX C

MEASUREMENT ITEMS FOR SELF-REGULATORY ORIENTATION

Please provide your responses to the following questions. For each of the statements below, please indicate the extent to which it applies to you or describes you personally⁴.

1. Compared to most people, I typically am able to get what I want out of life.
2. I often have accomplished things that got me excited to work even harder.
3. I often do well at different things that I try.
4. When it comes to achieving things that are important to me, I find that I perform as well as I ideally would like to do.
5. I feel like I have made progress toward being successful in my life.
6. I have found a number of hobbies or activities in my life that capture my interest or motivate me to put effort into them.
7. Growing up, I did things that my parents would not tolerate.
8. I often got on my parents' nerves when I was growing up.
9. I often disobeyed rules and regulations that were established by my parents.
10. Growing up, I acted in ways that my parents thought were objectionable.
11. Not being careful enough has gotten me into trouble at times.

⁴ Items 1 to 6 were used to measure promotion orientation and items 7 through 11 were used to measure prevention orientation. A 5-point scale with anchors “does not describe me at all” and “describe me very well” was used.

APPENDIX D

LISTS OF HEALTHY AND UNHEALTHY SNACKS

Healthy Snacks:

- Nuts, especially macadamia nuts, almonds and hazelnuts
- Dark chocolate
- Bread (whole grain)
- Low-fat and no sugar-added ice-cream
- Light popcorn
- Fresh fruit such as bananas and apples
- Fresh vegetable such as carrots and celery
- Frozen fruit bars, crunchy granola bars, or health bars
- Low-fat cheese and crackers
- Cereal (high fiber and low sugar) like oatmeal
- Plain yogurt (fat- and sugar-free)
- Fruit juices (no sugar added)

Unhealthy Snacks:

- Candy
- Cookies
- French fries
- Regular ice-cream
- Cakes
- Muffins
- Regular popcorn
- Chips
- Nachos
- Pretzels
- Trail mix
- Pastries and pies

APPENDIX E

REGULATORY ORIENTATION MANIPULATION ARTICLES

Promotion orientation:

Have you ever popped open a bag of potato chips to grab just a handful when, before you know it, you're eating the last remaining crumbs from your fingertips, and, wish there were more? If this scenario sounds familiar to you, take heart: You're not alone. Over 85% of Americans snack at least once a day, and for good reasons.

Snacking in and of itself can be a good thing, says Kathleen Zelman, MPH, RD/LD, director of nutrition for the WebMD Weight Loss Clinic. "Snacking is a vital part of providing needed calories and nutrients." The way we snack becomes part of our healthy lifestyle," she explains. Healthy snacking is about two things: what we eat and how much we eat.

Healthy snacks provide you fiber, natural ingredients, minerals, and vitamins, but minimal sugar or fat content. While it is okay to enjoy occasional snacks, planning your snacking ahead helps you take control of your diet. Once healthy snacking becomes a habit, more **long term benefits** will occur.

In the August 2004 issue of Health Magazine titled, "How To Be Healthier Americans," Marion Jones, Professor of Public Health at New York University pointed out that we, both men and women, can benefit from **healthy snacking** that energizes us in our daily lives. From fresh fruit, to cereals, to low fat/sugar ice-creams, to small amounts of chocolate, all the snacks that get into your body generate energy in between meals that help keep you physically active and mentally alert. In addition to **boosting vitality**, eating more healthy snacks provides you with **essential fiber and nutrients**, makes you **feel good and healthy about yourself**, and even **helps you sleep better at night!**

Improve your snacking today by thinking about what you have to do to promote the positive consequences of healthy snacking! You will be full of health and happiness!

Prevention orientation:

Have you ever popped open a bag of potato chips to grab just a handful when, before you know it, you're eating the last remaining crumbs from your fingertips, and, wondering where they all went? If this scenario sounds familiar to you, take heart: You're not alone. Over 85% of Americans snack at least once a day, mostly unhealthy snacks.

Snacking in and of itself is not necessarily a bad thing, says Kathleen Zelman, MPH, RD/LD, director of nutrition for the WebMD Weight Loss Clinic. "But snacks can

become a hidden piece of empty calories that loads extra calories without nutrients. It is also the way we snack that becomes unhealthy," she explains.

Unhealthy snacks provide you carbohydrates, highly processed ingredients, lots of sugar or fat content, but no or minimal minerals or vitamins. While it is not evil to indulge yourself to occasional snacks, continuous snacking leads to overeating. Once unhealthy snacking becomes a habit, more **long term harm** will occur.

In the August 2004 issue of Health Magazine titled, "Why Americans Are So Fat," Marion Jones, Professor of Public Health at New York University pointed out that we, both men and women, consume 300-500 calories more than we need every day. Most additional calories are taken from **unhealthy snacking**. From chips, to cookies, to cakes, to bagels, all the snacks that get into your body without immediate energy need will turn into fat and makes you feel sluggish. In addition to **getting unwanted weight gain and feeling bad about yourself**, eating unhealthy snacks also **leaves bad after taste, spoils your appetite, creates blemish problems**, and even increases **the probability of recurring headaches!**

Improve your snacking today by thinking about what you have to do to prevent the negative consequences of unhealthy snacking! You will not feel sick or guilty!

VITA

WING YIN LEONA TAM

School Address:

Department of Marketing
Mays Business School
Mail Stop 4112
Texas A&M University
College Station, TX 77843-4112

Home Address:

8013 Whitworth Ln.
Round Rock
TX 78681

Education

- Ph.D., Marketing, Texas A&M University, August 2005
- M.Phil., Marketing, The Chinese University of Hong Kong, May 1997
- B.B.A., Marketing, The Chinese University of Hong Kong, May 1994

Selected Publications

- Wendy Wood, Leona Tam, and Melissa Guerrero-Witt (in press), "Changing Circumstances, Disrupting Habits," *Journal of Personality and Social Psychology*, 88 (June), 918-933.
- Jelena Spanjol and Leona Tam (2003), "Framing and Categorization Issues in New Product Development (NPD) Metrics and Decision-Making," *AMA 2003 Summer Educators' Conference Proceedings*, eds. R. Bruce Money and Randall L. Rose, 14, 274-75.

Academic Honors and Awards

- Mays Postdoctoral Fellow, Mays Business School, Texas A&M University, 2005-2006
- AMA-Sheth Foundation Doctoral Consortium Fellow, Texas A&M University, 2004
- Doctoral Student Research Excellence Award, Department of Marketing, Texas A&M University, 2003-2004
- Mays Graduate School of Business Dean's Award for Outstanding Research by a Doctoral Student, Texas A&M University, 2003-2004
- Student Learning and Development Excellence Award, City University of Hong Kong, 2000-2001