ESSAYS ON CONSUMER SAVING BEHAVIOR

A Dissertation

by

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ABSTRACT

Savings play an important role in consumer financial well-being by alleviating the detrimental impact of income shocks, unexpected expenditures, and other financial uncertainties (Modigliani 1986). Despite the importance of savings, most Americans do not save enough money (Kotlikoff and Summers 1981; Ü lkümen and Cheema 2011). Accordingly, researchers and professionals have tried to understand and find ways to motivate saving behavior (Kotlikoff and Summers 1981; Thaler and Benartzi 2004; Ü lkümen and Cheema 2011).

The objective of my dissertation work is to provide a better understanding of consumers' saving behaviors. In the first essay, I investigate how individuals can set budgets with commitment, which has received little attention in prior literature. Specifically, I propose and find that the numbers of budget category considered for spending and savings and savings goal salience jointly determine savings estimates as well as commitment to those savings estimates. In the second essay, I examine the effects of the psychology of money on savings. In particular, I propose and identify how individuals perceive the money as a behavioral incentive and how they perceive themselves in relation to others, which jointly influence their motivational orientation in savings.

Taken together, my dissertation contributes to expanding existing knowledge on savings behavior for consumer welfare.

DEDICATION

To my family.

I never want you feeling unappreciated.

I love you more than you think.

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TABLE OF CONTENTS

Page

ABSTRACT ii

DEDICATION iii

ACKNOWLEDGEMENTS iv

TABLE OF CONTENTS vi

LIST OF FIGURES viii

LIST OF TABLES ix

CHAPTER I INTRODUCTION 1

CHAPTER II INTEND TO SAVE MORE BUT NOT COMMITTED: THE EFFECT OF THE GOAL ELABORATION ON SAVING BEHAVIOR AND COMMITMENT 4

- Introduction 4
- Theoretical Background 8
  - Importance of Budget Setting 8
  - Budget Setting for Spending and Savings 10
  - Budget Setting and Savings Goal Commitment 13
- Overview of Studies 15
- Study 1 16
  - Method 16
  - Results and Discussion 18
- Study 2 26
  - Method 26
  - Results and Discussion 27
- Study 3 33
  - Method 33
  - Results and Discussion 34
- Study 4 38
  - Method 39
  - Results and Discussion 40
- General Discussion 45
  - Contributions and Implications 45
  - Future Research and Conclusions 48

CHAPTER III DIFFERENT PATHS, SAME DESTINATION: HOW MONEY-VIEWS AND SELF-VIEWS JOINTLY INFLUENCE SAVING BEHAVIOR 49

Introduction 49
Theoretical Background 53
The Psychology of Money and Saving Behavior 53
Money-View and Motivational Orientations in Saving 54
The Interaction between Money-View and Self-View 57
Overview of Studies 59
Study 1A 61
Method 61
Results and Discussion 63
Study 1B 65
Method 65
Results and Discussion 68
Study 2 70
Method 70
Results and Discussion 72
Study 3A 73
Method 73
Results and Discussion 74
Study 3B 77
Method 77
Results and Discussion 77
Study 4 80
Method 80
Results and Discussion 82
Study 5 87
Method 87
Results and Discussion 88
General Discussion 93
Contributions and Implications 94
Limitations and Future Research 98

CHAPTER IV SUMMARY 101

REFERENCES 103

LIST OF FIGURES

Page

Figure 1: Savings Estimates in Study 1 21

Figure 2: Mediation Results in Study 1 24

Figure 3: Savings Estimates in Study 2 29

Figure 4: Differences in Savings Estimates in Study 3 36

Figure 5: Actual Amount of Savings in Study 4 44

Figure 6: Averaged Money Allocated to Savings (%) in Study 3A 76

Figure 7: Averaged Money Allocated to Savings (%) in Study 3B 79

Figure 8: Averaged Money Allocated to Savings (%) in Study 4 83

Figure 9: Mediation Analysis Results in Study 4 86

Figure 10: Correspondence between the Johnson-Neyman Point and the Confidence Bands around the Simple Effect of Z in Study 5 92

LIST OF TABLES

Page

Table 1: Words Used for the Word Scramble Task in Study 2B 67

Table 2: Words Used for the Sentence Completion Task in Study 2B 67

Table 3: Examples of Saving Strategies Used in Study 2 71

Table 4: Measures' Means, Standard Deviations, and Intercorrelations in Study 5 89

Table 5: OLS Results in Study 5 90

CHAPTER I

INTRODUCTION

Savings plays an important role in consumers' financial well-being, as it alleviates the detrimental impact of income shocks, unexpected expenditures, and other financial uncertainties (Modigliani 1986). Despite its importance, most Americans do not save enough (Kotlikoff and Summers 1981; Ü lkümen and Cheema 2011). The consequences of under-saving are severe; for example, recent research shows that poverty, a possible outcome of under-saving, can harm one's cognitive function and the poor could be caught in a vicious circle (Mani et al. 2013). The under-saving tendency seems prevalent today and is not ameliorated even after the recent financial crisis (Kramer 2013). Accordingly, researchers and professionals have tried to understand and identify ways to motivate saving behavior (Kotlikoff and Summers 1981; Thaler and Benartzi 2004; Ü lkümen and Cheema 2011).

The objective of my dissertation work is to provide a better understanding of effective strategies to encourage saving behavior. In the first essay, I investigate how individuals' budget-setting behavior would be related to their commitment to savings. Past research suggests that consumers' budget setting behavior may depend on financial goal salience. Building upon and extending this research, we propose that consumers' budget setting behavior is also affected by the extent of elaborations on a financial goal. Specifically, we predict and find evidence that consumers can benefit from having a salient savings goal and elaborating on spending and savings goals to similar degrees.

Under such circumstances, consumers will perceive their savings goal as more important, thereby saving more while maintaining a high level of savings goal commitment. This research contributes to the body of work on budgeting and planning for goal-directed behaviors. The results hold important implications for consumers, marketers and public policy makers.

In the second essay, I propose that the way individuals perceive money as a behavioral incentive (i.e., money-view) influences how they pursue a saving goal. Prior literature shows a possible link among money perceptions, attentional focus, and motivational orientations (Furnham 1984; Furnham and Argyle 1998; Lea and Webley 2006; McClelland 1967; Tang 1992; Vohs, Mead, and Goode 2006; Yamauchi and Templer 1982). Extending these findings, I propose that when individuals view money as a means (versus an end), they are likely to attend to how to use money (versus how to accumulate money), which is related to losses (versus gains) in financial assets when saving is of interest. Hence, individuals who view money as a means (versus an end in itself) are likely to prefer a saving strategy that minimizes losses (versus maximizes gains) in financial assets. In addition, I argue that the effects of money-views can be better understood when examined with the effects of self-views (i.e., how individuals perceive themselves in relation to others). Based on the prior literature on self-view (Aaker and Lee 2001; Hamilton and Biehal 2005; Lee, Aaker, and Gardner 2000; Zhou and Pham 2004), I propose and find that interdependents (independents) are more likely to prefer a saving strategy that aims to minimize losses (maximize gains) in financial assets. More importantly, I propose and document an interaction effect between money-

and self-views in saving. That is, when individuals have the same (vs. different) motivational orientation dictated by their money- and self-views, such a fit increases engagement in saving, which in turn motivates them to save more (Higgins 2006; Lee, Keller, and Sternthal 2010; Wadhwa and Zhang 2015). This research contributes to existing knowledge on saving behavior as well as the psychology of money.

In sum, the findings of this dissertation help academics, practitioners and consumers better understand saving behavior and suggest novel ways to encourage saving behavior.

CHAPTER II

INTEND TO SAVE MORE BUT NOT COMMITTED: THE EFFECT OF THE GOAL ELABORATION ON SAVING BEHAVIOR AND COMMITMENT

Introduction

Savings is one of the major issues in consumer welfare as it can protect individuals from unexpected financial hardships (Modigliani 1986). However, insufficient saving behavior seems prevalent in our society (Kotlikoff and Summers 1981). Accordingly, it has been of great interest to both academics and practitioners to identify mechanisms that help with consumer savings (Thaler and Benartzi 2004).

Budgeting, which includes two sequential steps (i.e., budget setting and budget tracking), is one of the commonly recommended strategies for savings (Heath and Soll 1996; Tam and Dholakia 2011). Specifically, budget setting describes how individuals make plans to manage their personal finances whereas budget tracking describes how they follow up on their financial plans (Heath and Soll 1996). In other words, budget setting provides a guideline for budget tracking (Heath, Larrick, and Wu 1999). This implies that, if individuals set budgets without commitment, they are less likely to commit to those budgets, thereby failing to follow the budgets in the later phases (Peetz and Buehler 2009; Sussman and Alter 2012). Hence, it is important to understand under which situations individuals can set budgets with commitment.

In this research, I propose that budget setting for spending and savings would be a key to understanding how individuals can set budgets with commitment as such budget

setting can create conflicts between spending and savings, thereby encouraging savings behavior. Goal-setting theory proposes that, when individuals experience conflict between goals and possible obstacles, they are more likely to set goals with commitment because such conflict heightens goal importance, thereby producing stronger goal commitment (Gollwitzer, Gawrilow, and Oettingen 2010; Gollwitzer and Oettingen 2011). Similarly, individuals might set budgets with commitment in situations in which they experience conflicts between spending and savings in budget setting. However, prior research has focused on budget setting only for spending (Sussman and Alter 2012; Ü lkümen, Thomas, and Morwitz 2008) or only for savings (Peetz and Buehler 2009, 2012; Tam and Dholakia 2011). As a result, the existing knowledge is limited to one-sided budget setting and does not explore possible effects of goal conflict between spending in budget setting.

To fill this gap, I investigate how individuals set budgets for two higher-order conflicting budgetary goals (i.e., spending and savings) and how such budget setting relates to their commitment to those budgets. Drawing upon support theory (Buehler, Griffin, and Peetz 2010; Buehler, Griffin, and Ross 1994; Tversky and Koehler 1994), I predict that the number of budget categories considered for spending and savings may play an important role in budget estimation behavior. Specifically, I predict that the number of budget categories would influence the amount of attention paid to a budgetary goal and, in turn, the predicted amount of money needed for it. As a result, individuals would have higher estimates when they consider more (vs. fewer) budget categories for a budgetary goal. Moreover, as individuals tend to value spending needs more than

savings needs in general (Hoch and Loewenstein 1991), the effects of the number of spending (vs. saving) budget categories would be stronger. As a result, when individuals have the same number of budget categories for spending and savings, their budget estimation would be more influenced by the number of spending (vs. savings) budget categories.

However, when the savings goal becomes salient, the effects of the number of spending and savings budget categories would become similar to each other. That is, when savings becomes salient, individuals would realize that they need to overcome their general tendency to value more spending (vs. savings) needs. Moreover, such a tendency would create conflict between spending and savings, especially when individuals predict needing a similar amount of money for both budgetary goals with the same number of budget categories. When goal conflicts between spending and savings arises, individuals would perceive the savings goal to be more important than spending, thereby increasing money allocation to savings. This occurs because goal conflict between short- and long-term goals can activate one's self-regulation to attain long-term goals (Fishbach and Converse 2010; Fishbach and Trope 2005; Trope and Fishbach 2000). As a result, when individuals have the same number of budget categories for spending and savings with salient savings goals, they would increase savings estimates as a reflection of their stronger savings goal commitment. In contrast, when individuals do not experience goal conflict, their savings estimates might not predict commitment to pursuing savings. Instead, the higher savings estimates would lead to a lower commitment because the higher savings estimates would infer the increased goal

difficulty, thereby undermining goal commitment (Bagozzi and Dholakia 1999; Kruglanski et al. 2002; Locke et al. 1981).

This research extends the previous knowledge on budgeting in meaningful ways. By joining the recent stream of research focusing on the importance of budget setting (Peetz and Buehler 2009; Sussman and Alter 2012), this research provides new insights into the underlying mechanism in budget setting. The results suggest that decisions regarding budget categories play an important role in budget setting. First, I found that when individuals estimate budgets, their estimation behavior is sensitive to how many budget categories they would consider. This tendency is consistent with previous findings in planning literature – namely, individuals tend to make different predictions depending on how a given situation/task is described (Buehler et al. 1994). Second, I found that the number of budget categories plays an important role in budget setting by creating goal conflict between spending and savings. Similar to Soman and Zhao (2011), I found that the number of savings goals (i.e., saving budget categories) plays an important role in encouraging saving behavior. However, my finding further points out that the number of savings goals should be considered along with the number of spending goals.

This research also contributes to planning literature by identifying situations in which planning benefits goal pursuit. Prior literature has suggested that, when individuals pursue multiple goals, their goal pursuit might depend on their relative perception of goal difficulty and goal importance (Crown and Rosse 1995; Klein et al. 1999; Klein et al. 2001; Locke et al. 1981). I suggest that the number of sub-goals

considered during the planning stage might play a key role in determining the relative goal difficulty and goal importance. Practically speaking, my findings have significant implications for practitioners by suggesting effective ways to educate individuals to plan their budgets for savings.

Theoretical Background

Importance of Budget Setting

Insufficient saving behavior has been well documented in prior literature (Kotlikoff and Summers 1981). Since savings can offer financial stability, prior research has attempted to identify possible causes of insufficient savings and suggest remedies to alleviate its detrimental effects on consumer financial well-being (Modigliani 1986).

Researchers have argued that time-inconsistent preferences are one of the possible causes of insufficient savings behavior: Individuals tend to prefer rewards sooner rather than later and are thereby less likely to act in favor of future-oriented choices (Hoch and Loewenstein 1991). However, when individuals attend to the future in decision-making, such a tendency can be decreased; for example, individuals tend to make more future-oriented choices when they elaborate on potential future outcomes (Nenkov, Inman, and Hulland 2008), when they are encouraged to think about their future selves (Hershfield et al. 2011), or when the language they speak links the present to the future (Chen 2013). Planning is one way of encouraging individuals to elaborate on the future and shift their preferences toward future rewards (Gollwitzer 1999; Lynch et al. 2010). Past research on personal finance has also suggested that financial planning

can encourage saving behavior (Ameriks, Caplin, and Leahy 2002; Heath and Soll 1996; Tam and Dholakia 2011).

Budgeting, which refers to one's financial planning (i.e., budget setting) as well as the follow-ups of such plans (i.e., budget tracking), is one strategy that individuals consider when they want to manage their personal finances (Ameriks et al. 2002; Heath et al. 1999; Heath and Soll 1996). Although budgeting includes two sequential steps, past literature on budgeting has focused primarily on its later part, i.e., budget tracking. For example, researchers have found that financial goal attainment can be enhanced or hindered depending on whether or not individuals precisely track their progress in relation to predetermined budgets (Cheema and Soman 2006), whether or not individuals are likely to exercise self-control during budget tracking (Haws, Bearden, and Nenkov 2012), or whether or not individuals track down their total amount of spending during shopping in relation to their predetermined budgets (van Ittersum, Pennings, and Wansink 2010). Despite the fact that individuals' budget tracking is followed by their budget setting, this stream of research has paid little attention to budget setting, perhaps due to the assumption that individuals already have the budgets that they want to follow.

However, more recent studies have argued that, if individuals have budgets to which they cannot commit, they are likely to fail in their financial goal pursuit. For example, spending estimates that are too low might result in failures in regulating spending (Sussman and Alter 2012), or savings estimates that are too high can undermine motivations for the subsequent savings goal pursuit (Peetz and Buehler 2009; Tam and Dholakia 2011). In other words, successful budget tracking requires individuals

to set budgets to which they can commit. As such, if individuals set budgets that cannot be followed in budget tracking, their budget estimation would simply remain as estimations and not serve as references for their budget tracking. However, little is known about under which situations individuals can set budgets that ensure their commitment to keep those budgets in the following budget tracking.

In this research, I explore the way in which individuals can set committable budgets. Based on the findings on the positive role of goal conflict in promoting future-oriented behaviors (Gollwitzer et al. 2010; Gollwitzer and Oettingen 2011), I suggest that budget setting for spending and saving would create goal conflict between spending and savings.

Budget Setting for Spending and Savings

According to goal-setting theory, when individuals experience conflicts between goals and possible obstacles, they are more likely to set *committable* goals (Gollwitzer et al. 2010; Gollwitzer and Oettingen 2011; Oettingen and Gollwitzer 2001). This occurs because such conflict offers a chance for individuals to elaborate on their subjective perception of goal pursuit matched with the objective situation of goal pursuit, thereby leading them to set committable goals (Newell and Simon 1972; Oettingen and Gollwitzer 2001). Similarly, planning literature suggests that individuals should carefully evaluate possible obstacles that could happen during goal pursuit to make more executable plans (Buehler et al. 2010).

If so, under which situations, would individuals experience goal conflict in budget setting? Individuals tend to value spending needs more than savings needs in

general (Hoch and Loewenstein 1991). As such, when individuals realize that their savings needs are as important as their spending needs, they are likely to experience conflicts between spending and savings as they might realize that they need to overcome the general tendency to value spending needs more than savings needs. Thus, I argue that, when individuals predict a similar amount of money needed for their spending and saving needs, they are likely to experience goal conflict in budget setting.

To explain how individuals predict budgets, I propose that the number of budget categories would influence budget-estimation behavior. According to support theory, individuals are more likely to pay attention to and estimate that a given future event/outcome would happen when it is described in more detail (Buehler et al. 2010; Buehler et al. 1994; Tversky and Koehler 1994). This so-called prediction bias is reflected in the finding that individuals are willing to pay more for a flight insurance policy that explicitly lists the specific events it covers than for a more inclusive policy that does not list specific events (Henrion, Fischer, and Mullin 1993; Johnson et al. 1993). These findings suggest that the extent to which a goal is described would influence one's prediction for that goal. Following this logic, I expect that individuals would have a higher estimate when they have more (fewer) budget categories (i.e., prediction biases in budget setting).

In addition, individuals can be more influenced by the number of spending (vs. savings) budget categories due to the general tendency to focus more on present rather than future rewards (Hoch and Loewenstein 1991). However, when savings becomes salient, such a tendency would be decreased as a salient savings goal would encourage

individuals to focus on savings to a greater extent. Thus, when savings becomes salient, individuals would realize that they need to overcome their general tendency to value more spending than savings needs. Accordingly, such a tendency would create conflict between spending and savings, especially when individuals predict needing a similar amount of money for both budgetary goals with the same number of budget categories. This might occur because the similar budget estimates for spending and savings infer that both spending and savings are equally important. Formally, I predict that:

H1: Individuals will experience goal conflict between spending and savings when they estimate budgets based on the same number of budget categories with salient savings goals, but not in other situations.

When goal conflict arises between short- and long-term goals, individuals tend to exercise self-regulation to pursue long-term goals by actively perceiving long-term goals as more important (Fishbach and Converse 2010; Fishbach and Trope 2005; Trope and Fishbach 2000). Past literature has effectively documented that whether or not individuals can activate self-regulation is critical to understanding their savings behavior (Vohs and Faber 2007). Self-regulation also keeps individuals motivated to pursue their goals after making plans, thereby leading them to achieve goals (Bagozzi and Dholakia 1999; Kuhl 1994). In budget setting, a savings goal can represent one's long-term financial goal, whereas a spending goal can represent a short-term financial goal. Thus, when goal conflict between spending and savings arises during budget setting, individuals might perceive the savings goal to be more important and, in turn, allocate more money to it than identified in their initial budget estimates based on the number of

spending and/or savings budget categories. However, such a tendency would be attenuated when individuals predict higher spending estimates, as these would lead individuals to pay more attention to spending, thereby decreasing the positive effect of savings goal salience.

H2-1: Individuals will increase savings estimates when they predict budgets based on the same number of budget categories for spending and savings with salient savings goals than compared to their initial savings estimates based on the number of spending and/or savings budget categories.

H2-2: The proposed effect in **H2-1** will be mediated by the savings goal importance.

H2-3: The proposed effect in **H2-1** will be attenuated with more, rather than fewer, spending budget categories.

Budget Setting and Savings Goal Commitment

The amount of money allocated to a budgetary goal (i.e., budget estimates) would represent individuals' determination to pursue it in the future as the resource allocation decision is closely related to goal importance perception and, in turn, goal commitment (Kruglanski et al. 2002; Shah, Friedman, and Kruglanski 2002; Shah and Kruglanski 2002). Therefore, if individuals plans to save more money, it could imply that they are more committed to pursuing savings goals in the future.

However, for successful goal attainment, individuals must maintain the goal commitment formed during the planning stage through the next stages of goal pursuit by exercising self-control (Bagozzi and Dholakia 1999). Indeed, when individuals have a

chance to exercise their self-regulation during the planning stage, they are more likely to pursue their plans in the future. Moreover, although the increased goal importance provokes the need for self-regulation to attain goals, it is also important to note that goal commitment is determined by both goal importance and goal difficulty (Bagozzi and Dholakia 1999; Kruglanski et al. 2002; Locke et al. 1981). Therefore, even when holding goal importance constant, one's goal commitment would decrease when goal difficulty increases. Although planning is widely known to be beneficial for one's goal attainment (Gollwitzer 1999), recent planning literature suggests that planning activity itself might heighten goal difficulty and, in turn, harm goal commitment; for example, individuals are demotivated to continue goal pursuit when they realize the implementation difficulty of plans, especially when making plans for multiple goals (Dalton and Spiller 2012), or when they experience emotional distress by realizing their poor goal progress in making plans (Townsend and Liu 2012). This line of research suggests the backfire effects of planning; that is, goal commitment can be attenuated when individuals expect goal difficulty in planning.

Budget setting is a component of financial planning (Heath and Soll 1996). As such, the formed savings goal commitment during budget setting (i.e., the savings estimates) might not always turn into the following savings goal pursuit—unless it is determined based on the exercise of self-regulation. Hence, I predict that individuals would commit to savings goal pursuit *after* budget setting when they engage in budget setting by experiencing goal conflict (i.e., the same number of spending/savings budget categories with salient savings goals). Yet, under other conditions, individuals would not

commit to savings goal pursuit after budget setting. In addition, similar to my prediction of the effect of spending estimates in budget setting, this tendency would be attenuated when individuals perceive savings goal pursuit as being more difficult to attain.

H3-1: Individuals will commit to their budgets when they are set with the same number of spending/savings budget categories as their salient savings goal.

H3-2: The proposed effects in **H3-1** will be attenuated with more, rather than fewer, spending budget categories.

Overview of Studies

To test my predictions, I conducted a series of four experiments. In Study 1, I first tested whether the number of budget categories and savings goal salience would create goal conflict between spending and savings and, in turn, influence savings estimates. In Study 2, I attempted to replicate the results of Study1 by using a different method to manipulate savings goal salience. Furthermore, I measured savings goal commitment, adapted from Klein et al. (2001), to test whether or not participants maintain their savings goal commitment despite the reminder of the increased difficulty of the savings goal. In Study 3, I tested whether or not another long-term-oriented goal would produce the similar effects of savings goal salience, as savings behavior can also be enhanced when individuals are future-oriented (Chen 2013). In addition, I measured savings goal commitment in a different way. If individuals are likely to revise their goals regarding goal setting, it could indicate that they are less committed to pursuing those goals (Hollenbeck and Klein 1987; Klein et al. 1999). As such, the degree to which participants revise their savings estimates might infer the degree to which they commit

to savings goals after budget setting. Finally, in Study 4, I tested whether or not my proposed effects could influence participants' saving behavior in a more realistic setting. To this end, I asked participants to report the amount of money spent in the two weeks after they initially completed the hypothetical budget-setting task.

Study 1

Method

Participants. One hundred seventy-three undergraduate students participated in the online study in a controlled laboratory setting for partial course credits. Ten students who failed to complete the entire study were excluded, resulting in a total of 163 participants (53.4 % male, 77.9 % Caucasian) being included in the analyses.

Experimental Design and Procedure. The study was a 2 (savings goal salience: low vs. high) x 2 (the number of spending budget categories: fewer vs. more) x 2 (the number of savings budget categories: fewer vs. more) between-subjects full factorial design.

To manipulate savings goal salience, when participants were asked to generate their own budget category for use in the subsequent budget-setting task, half of participants were provided with a set of budget category examples for both spending and savings, while the other half was not. I assume that individuals naturally tend to focus more on spending than savings (Hoch and Loewenstein 1991). As a result, there would be little difference in perceptions on spending goal salience between the budget category generation task with examples and the one without examples, as individuals are already familiar with spending-related situations. In contrast, the budget category generation task

for savings without (vs. with) examples might render savings goals as more salient by encouraging participants to pay more attention to savings. To validate this assumption, I conducted a pretest (n=118) and confirmed that participants paid more attention to savings, rather than spending, budget category generation when they generated their own savings budget categories without (vs. with) being provided budget category examples (F (1, 106) = 5.23, $p < .05$). This pretest result provides a basis for the main study. The budget category examples given to participants were as follows:

> *For spending: Rent/Mortgage, Utilities, Gas/Transportation, Food/Groceries, Child Care, Entertainment, Clothing, Medical, and Miscellaneous.*
>
> *For savings: Retirement, Investment, Education, Emergency Fund, Travel, Gifts, Car, Home, and Others.*

I manipulated the savings goal salience by asking participants to generate budget categories depending on whether or not they were provided with budget category examples. Participants were also asked to generate different numbers of budget categories for both spending and savings (i.e., three vs. six budget categories for each budgetary goal, depending on the conditions to which they were assigned). After completing the budget category generation task, participants were asked to indicate whether they paid more attention to savings (vs. spending) budget category generation ("I paid more attention to…"), which was measured on a 9-point scale (1 = *spending budget category generation*, 9 = *savings budget category generation*).

Next, I asked participants to choose their own hypothetical disposable incomes and then set their budgets with their self-generated budget categories. Self-generated budget categories appeared randomly in the budget-setting task. Following the budget-setting task, participants were asked to indicate their perceptions of the difficulty of the budget-setting task ("How difficult was this budgeting task?") on a 9-point scale (1 = *not at all*, 9 = *very difficult*). Measuring the budget-setting task's difficulty would help us confirm whether or not individuals experience goal conflict in budget setting; when individuals have conflicting goals, they might find it difficult to make resource allocation decisions. Participants were then asked to indicate their perceptions of savings goal importance ("How important is saving for the future to you?") as well as spending goal importance ("How important to you is spending money for current needs?") on a 9-point scale (1 = *not at all important*, 9 = *very important*). Next, participants were asked to indicate their agreements with six items, measured on 9-point scales, regarding their propensity to plan for money in the long term (PPMLT), adopted from Lynch et al. (2010). The scale included such items as "I set financial goals for the next 1–2 months for what I want to achieve with my money," "I decide beforehand how my money will be used in the next 1–2 months," and "I actively consider the steps I need to take to stick to my budget in the next 1–2 months." This PPMLT scale was included as a control. Finally, some demographic information such as gender and ethnicity was collected.

Results and Discussion

Manipulation Check. To check whether or not the savings goal salience manipulation was successful, I ran a three-way ANOVA on the relative perception of the

amount of attention paid to the savings budget category generation task, with savings goal salience, the number of spending budget categories (hereafter referred to as BC), and the number of savings BC as factors and gender, ethnicity, and PPMLT (Cronbach's α=.94) as covariates. The results showed the significant main effect of savings goal salience (M_{low}= 4.94 vs. M_{high} = 5.66; F (1, 152) = 4.05, p < .05) in the direction I expected. All other effects were not significant (all ps > .10). Hence, the savings goal salience manipulation was successful.

Goal Conflict. I first tested whether goal conflict between spending and savings would arise when participants estimated budgets based on the same numbers of BC for spending and savings with salient savings goals. For this purpose, I created a new categorical variable called *match*, which indicated whether participants had the same number of BC for spending and savings.

When I ran a two-way ANOVA on the perceptions of budgeting difficulty, with savings goal salience and *match* as factors as well as the amount of disposable income, gender, ethnicity, and PPMLT as covariates, I found a significant two-way interaction (F (1, 155) = 6.81, p = .01). The planned contrast showed that participants perceived the budget-setting task to be more difficult in the match vs. mismatch conditions when they were in the high savings goal salience condition (i.e., no examples of budget categories were provided): M_{match}= 6.40 vs. $M_{mismatch}$ = 4.74; F (1, 155) = 8.80, p < .01. The corresponding difference was not significant when they were in the low savings goal salience condition (i.e., examples of budget categories were provided): M_{match}= 5.45 vs. $M_{mismatch}$ = 5.95; F (1, 155) = .60, p >.10. This result supports my prediction (**H1**) that

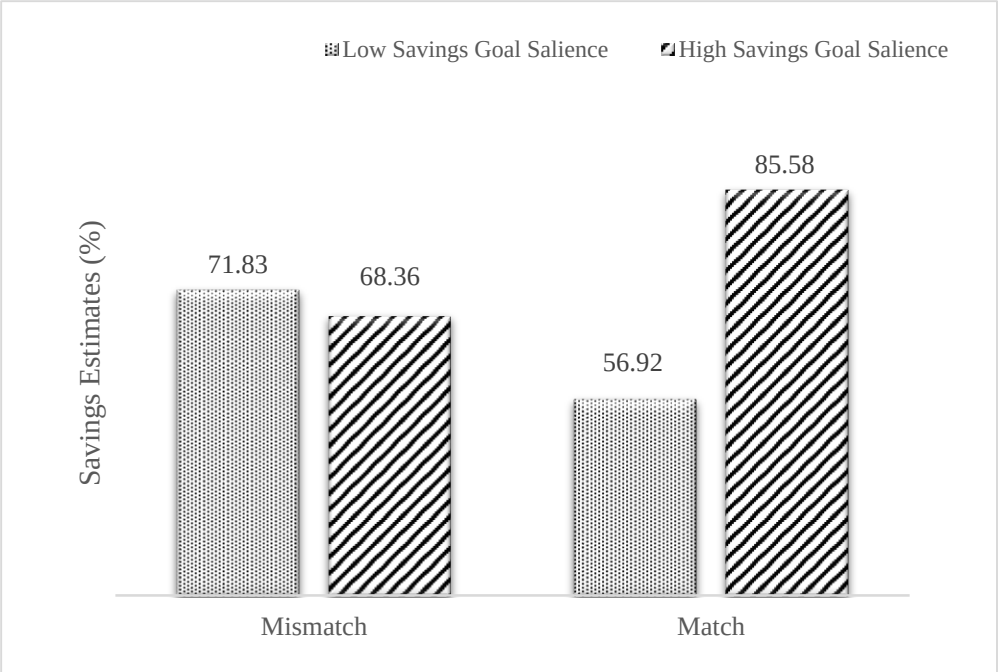
participants experienced goal conflict when a savings goal was more salient and they estimated budgets based on the same number of budget categories for spending and savings.

Savings Estimates. I calculated the total savings estimates by summing up participants' estimates across all savings categories. I then calculated the savings estimates as a percentage of one's choice of disposable income. I used this percentage variable as the key dependent measure to control for differences in the self-generated disposal incomes. Next, I ran a three-way ANOVA on total savings estimates in a percentage, with savings goal salience, the number of spending BC, and the number of savings BC as factors and including the amount of disposable income, gender, ethnicity, and PPMLT as covariates. An ANOVA revealed a significant three-way interaction effect on savings estimates in percentage (F (1, 151) = 6.10, $p < .05$). The main effect of the number of spending BC (M_{fewer}= 70.63% vs. M_{more} = 52.23%; F (1, 151) = 28.17, $p < .001$) and that of the number of savings BC (M_{fewer}= 58.83% vs. M_{more} = 64.41%; F (1, 151) = 3.99, $p < .05$) were both significant, as I expected. These results support my preliminary prediction that one's savings estimates would vary depending on the number of budget categories (i.e., prediction biases in budget setting).

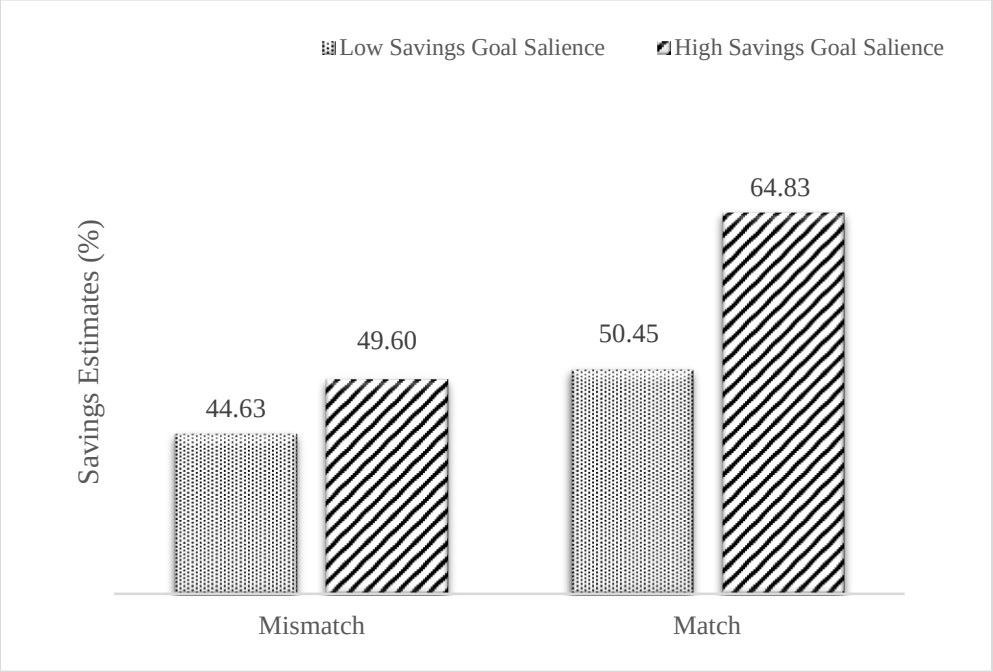
To analyze these results in detail, I ran separate ANOVAs for each spending BC (fewer vs. more). By doing so, I was able to determine whether the proposed effect would be attenuated in the more (vs. fewer) spending BC condition.

Figure 1: Savings Estimates in Study 1

A. Savings Estimates (%) in the Fewer Spending Budget Category Condition



B. Savings Estimates (%) in the More Spending Budget Category Condition



I ran a two-way ANOVA on savings estimates, with *match* and savings goal salience as the factors and with the same covariates used in the previous analysis. The results are shown in Figure 1.

In the fewer spending BC condition (n=83), there was a significant two-way interaction effect of match and savings goal salience on savings estimates (F (1, 75) = 9.93, $p < .01$). The main effect of match was not significant (M_{match}= 71.25% vs. $M_{mismatch}$ = 70.05%; F (1, 75) = .04, $p = .84$), but the main effect of savings goal salience was significant; savings estimates were higher in the high salience savings goal condition (M_{high}= 76.56% vs. M_{low} = 64.55%; F (1, 75) = 5.69, $p < .05$). The planned contrast results showed no difference in savings estimates across savings goal salience conditions in the mismatch (M_{high}= 69.34% vs. M_{low} = 72.93%; F (1, 75) = .26, $p = .61$). In contrast, the corresponding difference was significant in the match (M_{high}= 84.43% vs. M_{low} = 55.80%; F (1, 75) = 14.18, $p < .001$).

In the more spending BC condition (n=80), there was no significant two-way interaction effect of match and savings goal salience on savings estimates (F (1, 72) = .05, $p = .83$). The main effect of match (M_{match}= 58.02% vs. $M_{mismatch}$ = 47.00%; F (1, 72) = 6.58, $p < .05$) and the main effect of savings goal salience were both significant (M_{high}= 57.22% vs. M_{low} = 47.25%; F (1, 72) = 5.45, $p < .05$). The planned contrast results showed no difference in savings estimates across savings goal salience conditions in the mismatch (M_{high}= 49.60% vs. M_{low} = 44.63%; F (1, 72) = 2.25, $p > .10$). In contrast, the corresponding difference in the match was marginally significant (M_{high}= 64.83% vs. M_{low} = 50.45%; F (1, 72) = 2.97, $p = .09$).

In sum, I found positive effects of goal conflict on savings estimates; participants increased savings estimates when they engaged in budget setting with the same number of BC for spending and savings in the high savings goal salience condition (supporting **H2-1**). Moreover, such an effect was attenuated in the more (vs. fewer) spending BC condition (supporting **H2-3**).

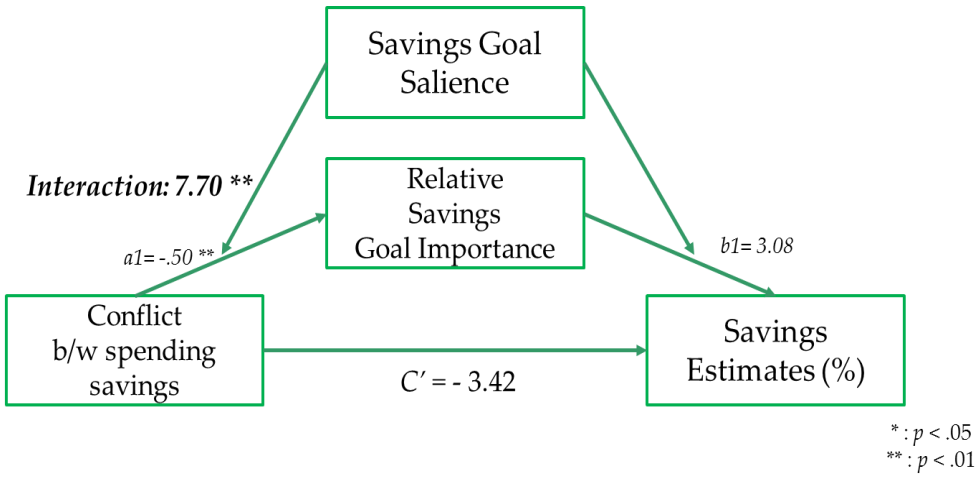
Mediation Analysis. I tested whether or not goal conflict between spending and savings increases one's savings goal importance perception, thereby leading to more money allocation to savings.

I first calculated the relative savings goal importance by subtracting spending goal importance from savings goal importance. I then conducted a bootstrapping analysis using the Model 58 (Hayes 2013). In this model, the relationship between an independent variable (X) and a dependent variable (Y) has a mediator (M). This model also includes a moderator (W) to the path from X to M as well as to the path from M to Y. Using this model, I could test the proposed moderated mediation effect—that is, differences in mediation across levels of the moderator (W) (Edwards and Lambert 2007). Accordingly, I ran a regression with savings estimates as the dependent variable, *match* as the independent variable, the relative savings goal importance as the mediator, savings goal salience as the moderator, and the amount of disposable income, the PPMLT, gender, and ethnicity as covariates.

The results, as shown in Figure 2, revealed a significant interaction effect between match and savings goal salience on the relative savings goal importance (M = 7.70, 95% C.I.=[7.03, 8.37]). The relative savings goal importance was enhanced when

participants engaged in budget setting with the same number of spending and savings BC with salient savings goals. In addition, the result of conditional indirect effects showed that goal conflict between spending and savings increased the relative savings goal importance, which in turn increased money allocation to savings in the high salient savings goal condition (M = 16.12, 95% C.I.= [1.74, 30.05]), but not in the low salient savings goal condition (M = 1.53, 95% C.I.= [-.73, 6.09]). In this model, the amount of disposable income was the only significant covariate (p <.01). In other words, the same number of BC with high salient savings goals increased the relative savings goal importance, thereby leading to the increased savings estimates (supporting **H2-2**).

Figure 2: Mediation Results in Study 1



In this study, I initially confirmed my proposed effects of the number of budget categories and savings goal salience on savings estimates. I also found that, when participants were in the high salient savings goal condition, they experienced goal conflict between spending and savings with the same number of budget categories for spending and savings. When participants experienced goal conflict, the relative savings goal importance perception was enhanced, thereby encouraging them to increase money allocated to savings.

Although I found supportive empirical evidence for the proposed effects, Study 1 has several limitations.

First, although I confirmed the savings goal salience manipulation through a pretest; this is not a commonly used approach when manipulating goal salience. Second, I did not control participants' disposable incomes. Though I used the percentage of money allocated to savings, I might need to control this variable in a more conservative manner. Third, the manipulation with the number of budget categories generation task might have impacted participants' fluency perceptions in the given budgeting task. Past research has found that individuals' fluency perceptions influence their decision-making; for example, when recalling past events, the easier it is for individuals to recall past events, the more frequently those events seem to happen (Schwarz et al. 1991). Likewise, when participants perceive the given budgeting task differently in terms of fluency, they might estimate budgets differently. Finally, I did not test how the savings estimates would affect one's savings goal commitment. To take these limitations into account, I conducted the next study.

Study 2

The purpose of Study 2 was to replicate the results of Study 1 with a different savings goal manipulation and additional control variables, such as fixed disposable income and fluency perception in budget setting. I also measured participants' savings goal commitment after budget setting while presenting their savings estimates.

Method

Participants. One hundred thirty undergraduate students participated in this study in a controlled laboratory setting for partial course credit. One student did not generate the budget categories as instructed and was excluded from further analyses (i.e., this student wrote numbers when asked to generate budget categories for both spending savings). Hence, 129 participants (47.3 % male, 81.4 % Caucasian) were ultimately included in the data analyses.

Experimental Design and Procedures. This study was a 2 (savings goal salience: salient vs. non-salient) x 2 (the number of spending BC: fewer vs. more) x 2 (the number of savings BC: fewer vs. more) between-subjects full factorial design. To manipulate savings goal salience, I applied the goal salience manipulation to the savings context (Wilcox, Kramer, and Sen 2011). Specifically, participants were randomly assigned and asked to read a paragraph either on savings (salient savings goal condition), which briefly stated how people can benefit from savings for their financial security, or on the Titanic shipwreck (non-salient savings goal condition), which was an excerpt from a recent scientific article explaining that the Titanic shipwreck could have been caused by an ultra-rare alignment of the sun, the full moon, and the Earth. After reading one of

these paragraphs, participants completed manipulation check measures. In particular, they were asked to indicate the extent to which they agreed with the following three statements on a nine-point scale (1 = *strongly disagree*, 9 = *strongly agree*): 1) this article is written well; 2) this article is interesting; and 3) this article reminds me of savings (or the Titanic shipwreck).

The budget-setting task was similar to the one used in Study 1, but with a fixed amount of hypothetical disposable income ($3,500). After completing the budget-setting task, participants were presented with their savings estimates. They were then asked to indicate their agreement with eight items, measured on a 9-point scale, regarding their savings goal commitment, as adapted from Klein et al. (2001). The items included "I am strongly committed to following my savings budget," "I think this is a good goal to shoot for," and "I am willing to put forth a great deal of effort beyond what I'd normally do to follow my savings budget." Next, I measured participants' fluency in budget setting using seven items, measured on a 9-point scale. The items included "The budgeting task was easy to process," "The budgeting task was easy to understand," "I felt right during the budgeting task," and "I am familiar with the budgeting task." Next, I measured participants' PPMLT and collected data on gender as well as ethnicity.

Results and Discussion

Manipulation Check. To check whether or not I manipulated the savings goal salience, I conducted a repeated measures ANOVA. The results revealed that the two paragraphs were not evaluated differently on how well they were written or how interesting they were (F (1,125) = .77, p =.38). However, each paragraph reminded

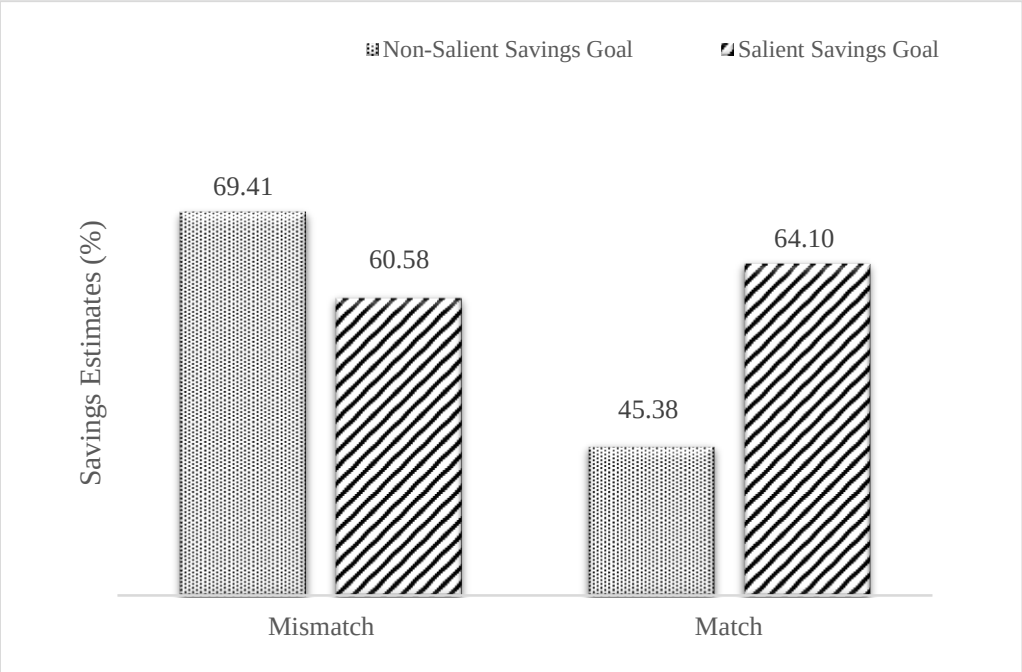
participants of either savings (M = 7.29, t (62) = 11.13, p < .001) or the Titanic shipwreck (M = 7.21, t (65) = 8.80, p < .001) successfully, as I intended. Hence, the current savings goal salient manipulation was successful.

The ANOVA revealed a significant three-way interaction effect on the savings estimates in percentages (F (1, 117) = 8.36, p < .01). The main effect of spending BC (F (1, 117) = 33.67, p < .001) and the main effect of savings BC (F (1, 117) = 17.63, p < .001) were both significant. No covariates were significant (all ps >.10). The results are shown in Figure 3. Next, similar to Study1, I ran two-way ANOVA on savings estimates (%) with *match* and savings goal salience as factors, with the same covariates used in the previous analysis. This was done separately for each spending BC condition.

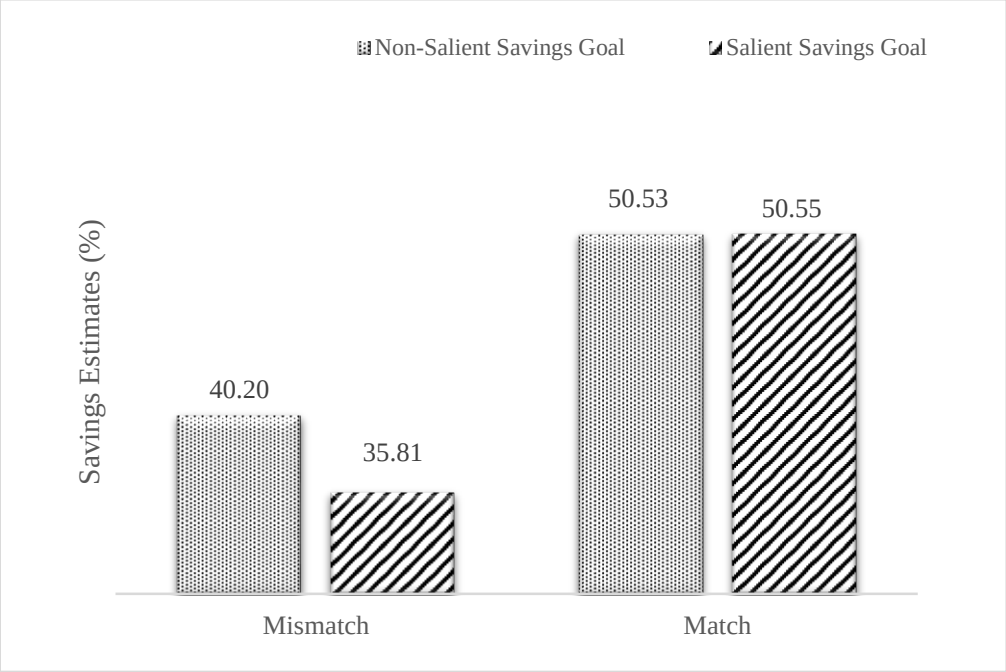
In the fewer spending BC condition (n=64), there was a significant two-way interaction effect of match and savings goal salience on savings estimates (F (1, 56) = 12.04, p < .01). The main effect of match was marginally significant (M_{match}= 53.89% vs. $M_{mismatch}$ = 64.86%; F (1, 56) = 3.83, p = .06). The main effect of savings goal salience was not significant ($M_{salient}$= 62.28% vs. $M_{non\text{-}salient}$ = 56.30%; F (1, 56) = 1.16, p = .27). The planned contrast results showed that there was no difference in savings estimates across savings goal salience conditions in the mismatch ($M_{salient}$= 60.58% vs. $M_{non\text{-}salient}$ = 69.41%; F (1, 56) = 2.65, p = .11). In contrast, the corresponding difference was significant in the match ($M_{salient}$= 64.10% vs. $M_{non\text{-}salient}$ = 45.38%; F (1, 56) = 11.20, p < .01). This again confirmed my prediction that goal conflict would lead to increased money allocation to savings.

Figure 3: Savings Estimates in Study 2

A. Savings Estimates (%) in the Fewer Spending Budget Category Condition



B. Savings Estimates (%) in the More Spending Budget Category Condition



In the more spending BC condition (n=65), there was no significant two-way interaction effect of match and savings goal salience on savings estimates (F (1, 57) = .63, p = .43). The main effect of match was significant (M_{match}= 50.54% vs. $M_{mismatch}$ = 35.81%; F (1, 57) = 11.58, p < .01), but the main effect of savings goal salience was not significant ($M_{salient}$= 43.64% vs. $M_{non\text{-}salient}$ = 45.84%; F (1, 57) = .58, p = .45). The planned contrast results showed that there were no differences in savings estimates across savings goal salience conditions in the mismatch ($M_{salient}$= 35.81% vs. $M_{non\text{-}salient}$ = 40.20%; F (1, 56) = 1.11, p =.30) and in the match ($M_{salient}$= 50.55% vs. $M_{non\text{-}salient}$ = 50.53%; F (1, 56) = .00, p =.98). These results showed that, when participants predicted higher spending estimates, the positive effect of goal conflict on savings estimates might be attenuated.

Savings Goal Commitment. To test whether savings estimates would predict one's savings goal commitment, I first averaged eight savings goal commitment measures (Cronbach's α=.85). I then ran a three-way ANOVA on savings goal commitment with savings goal salience, *match*, and the number of spending BC as factors and included the same covariates as those used in the previous analysis. The results revealed that there was a significant three-way interaction effect (F (1, 117) = 5.19, p < .05).

In the fewer spending BC condition (n=64), there was no significant two-way interaction effect (F (1, 56) = .37, p = .54). The main effect of match was marginally significant (M_{match}= 5.10 vs. $M_{mismatch}$ = 5.06; F (1, 56) = 2.86, p < .10). The planned contrast results showed no difference in savings estimates across savings goal salience

conditions in the mismatch ($M_{salient}$= 4.76 vs. $M_{non\text{-}salient}$ = 4.86; F (1, 56) = .04, p = .84). Given that the savings estimates in these two conditions did not differ from each other, this result seems reasonable; thus, participants exhibited levels of savings goal commitment that were similar to the levels of savings estimates across savings goal salience conditions. The corresponding difference was also not significant across savings goal salience conditions in the match condition ($M_{salient}$= 5.10 vs. $M_{non\text{-}salient}$ = 5.57; F (1, 56) = 1.26, p = .27). Given that savings estimates were higher in the match condition with salient savings goals, this result suggests that participants maintained their savings goal commitments to their higher savings estimates. This supports my prediction that individuals would commit to pursuing savings goals after budget setting when those savings estimates are set through experience goal conflict (supporting **H3-1**).

In the more spending BC condition (n=65), there was a significant two-way interaction effect (F (1, 56) = 5.88, p < .05). No main effects were observed. The planned contrast results showed that, in the mismatch condition, participants who had salient (vs. non-salient) savings goal were less committed to their savings goal ($M_{salient}$= 4.70 vs. $M_{non\text{-}salient}$ = 5.86; F (1, 57) = 6.35, p < .05). Given that the savings estimates in these two conditions did not differ from each other, this could suggest the backfire effects of salient savings goals; in other words, when participants elaborated on the fewer number of savings BC with the greater number of spending BC in budget setting, they tended to devalue the savings goal importance and, in turn, exhibit weaker savings goal commitment. In contrast, the corresponding difference was not significant across savings goal salience conditions in the match condition ($M_{salient}$= 5.27 vs. $M_{non\text{-}salient}$ =

4.93; F (1, 56) = 1.26, p = .27). Given that savings estimates were not significantly different from each other in these two conditions, this result seems reasonable.

In sum, I successfully replicated the results of Study1 on the joint effects of savings goal salience and the number of budget categories on savings estimates by using a different savings goal salience manipulation. I also found preliminary supportive evidence that, when participants were reminded of savings goal difficulty, their savings goal commitment was not decreased when they set budgets based on goal conflict. Moreover, I found the backfire effects of budget setting on one's savings goal commitment. When participants predicted their budget estimates based on more spending and fewer savings budget categories, they exhibited lower levels of savings goal commitment with salient (vs. non-salient) savings goals, despite the similar levels of savings estimates. In other words, when participants paid less attention to savings in budget setting, it might lead them to devalue their savings goals even though they had salient savings goals. Such budget-setting behavior (e.g., more detailed plans for spending with less detailed plans for savings) seems natural due to the general tendency to focus more on spending (vs. savings) in consumer budget setting. This might suggest that having a salient savings goal does not always encourage savings goal pursuit if individuals make their financial plans without experiencing goal conflict.

However, several limitations remained. First, as prior literatures suggests, if individuals tend to be future oriented, they are more likely to save money (Chen 2013; Hershfield et al. 2011). Thus, the same effect of savings goal salience might arise with other future-oriented goals (e.g., exercise). However, I argue that goal conflict arises

because individuals elaborate on their savings goal in relation to its conflicting goal (i.e., spending goal). If other future-oriented goals produce similar effects, it would be hard to argue that goal conflict between spending and savings plays a key role in budget setting. Second, I asked participants to set budgets just once in the previous two studies. If participants decreased their savings estimates when they repeatedly engaged in budget setting, it could suggest that they are less committed to keeping those savings estimates in the future. In turn, such a behavior might imply that participants are less committed to pursuing savings goals in the future. To explore these possibilities, I conducted the third study.

Study 3

The purpose of Study 3 was to test whether another future-oriented goal (e.g., exercise) would produce a similar effect in terms of the salient savings goal. Moreover, I tested whether the way in which participants engaged in budget setting influences their savings goal commitment, which was measured based on their propensity to revise their savings estimates.

Method

Participants. Three hundred twenty-six undergraduate students participated in this study in a controlled laboratory setting for partial course credit. Forty-two students did not complete the entire study, meaning 284 participants (42.6 % male, 78.9 % Caucasian) were included in the data analyses.

Experimental Design. I used a similar experiment design as in the previous two studies, with one variation. This experiment was a 2 (goal salience: exercise vs. savings)

x 2 (budget category generation order: spending first vs. savings first) x 2 (the number of spending BC: fewer vs. more) x 2 (the number of savings BC: fewer vs. more) between-subjects full factorial design. To test whether or not there was a recentness effect of budget category generation for either spending or savings, I included the order of budget category generation as a new factor.

Procedure. I used a similar procedure as in the previous studies; to manipulate goal salience for either exercise or savings, I asked participants to read a paragraph about either the importance of getting exercise (i.e., salient exercise goal) or the importance of saving money (i.e., salient savings goal). The budget category generation task was identical as in the previous two studies, but I varied the order of budget category generation task depending on the condition to which participants were assigned. Then, with the self-generated budget categories for spending and savings, participants completed the budget setting for a disposable income of $3,500. The presentation order of the budget categories were randomized. After completing the first budget-setting task, I once again asked participants to set their budgets. I briefly explained to participants that repeated budget setting could help them make better financial plans. Finally, I measured participants' PPMLT, fluency, and some demographic variables such as gender, ethnicity, and family income level.

Results and Discussion

Manipulation Check. In a similar manner as the previous studies, there was no difference in paragraph evaluation between savings and exercise conditions (F (1,277) = .07, p =.80). However, each paragraph successfully reminded participants of the

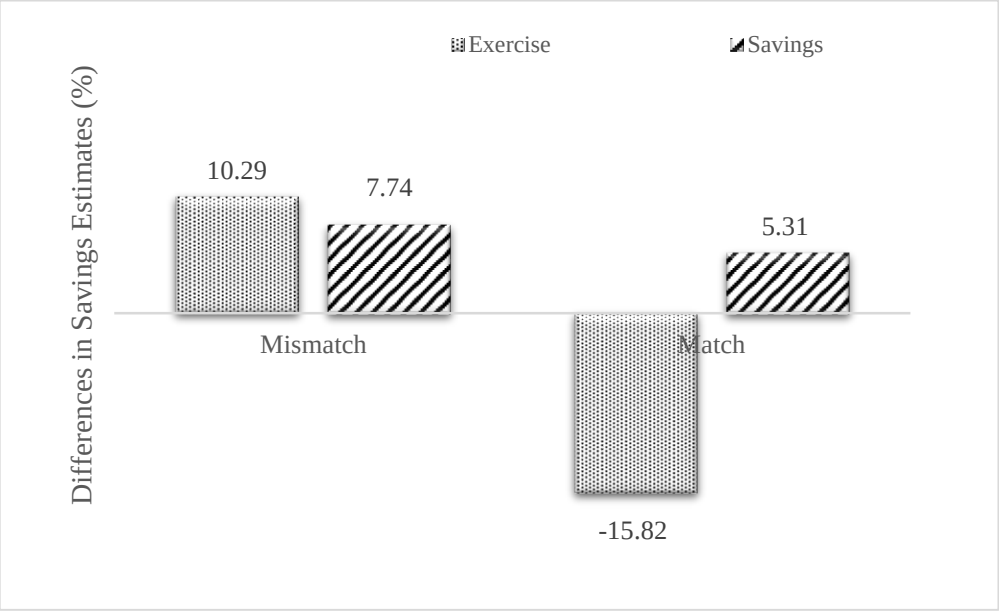
importance of either savings (M = 7.11, t (162) = 15.31, p < .001) or getting exercise (M = 6.64, t (162) = 10.61, p < .001), as I intended. Hence, the goal salience manipulation was successful.

Differences in Savings Estimates. I first calculated the differences in savings estimates (%) by subtracting the total savings estimates of the first trial from those of the second trial. The differences in savings estimates between the first and second trials might affect the extent to which participants maintained their savings goal commitment through two trials of budget setting. I then ran a four-way ANOVA on the differences in the savings estimates (%), with goal salience, the order of budget category generation, the number of spending BC, and the number of savings BC as factors as well as PPMLT (Cronbach's α=.93), fluency (Cronbach's α=.78), gender, ethnicity, and family income level as covariates. The results show that no four-way interaction effect occurred (F (1,263) = 2.47, p = .12). Hence, I merged cross-order conditions.

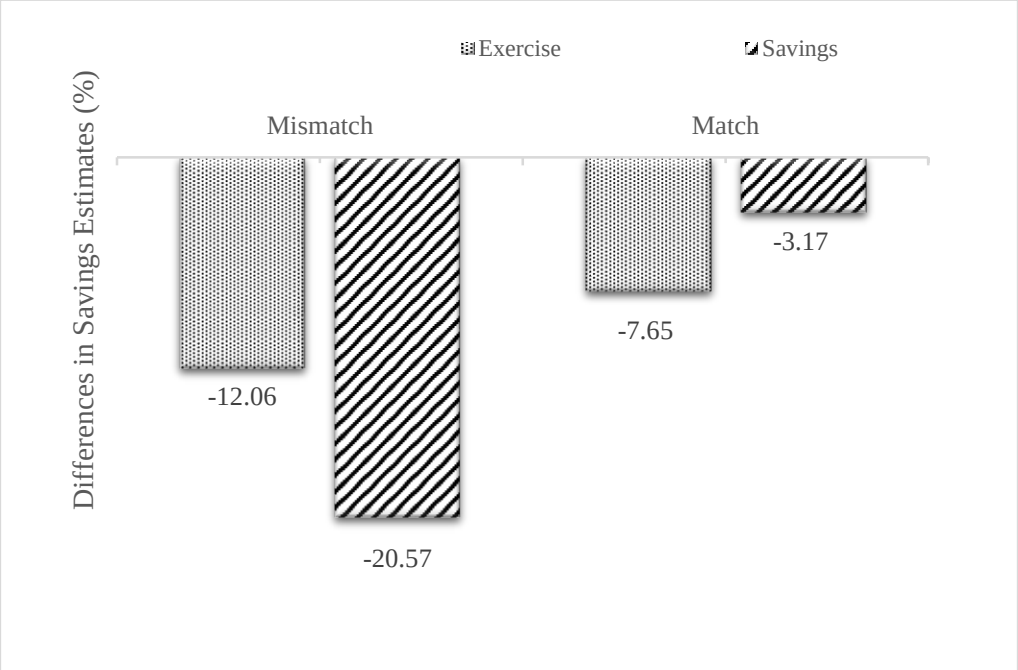
A significant three-way interaction effect existed on the differences in savings estimates (%) (F (1,271) = 5.13, p < .05). The main effect of spending BC (F (1,271) = 11.57, p < .01) and that of savings BC (F (1,271) = 10.03, p < .01) were both significant. After creating the new variable of *match* in the similar manner as in the previous two studies, I ran separate two-way ANOVA on the differences in savings estimates (%) with goal salience and *match* for each spending BC condition. The results are shown in Figure 4.

Figure 4: Differences in Savings Estimates in Study 3

A. Fewer Spending Budget Category Condition



B. More Spending Budget Category Condition



In the fewer spending BC condition (n=137), a significant two-way interaction effect of goal salience and match occurred on the differences in savings estimates (%) (F (1, 128) = 4.29, $p < .05$). The main effect of match was significant (M_{match}= -3.98% vs. $M_{mismatch}$ = 8.54%; F (1, 128) = 6.40, p < .05). The main effect of goal salience was marginally significant ($M_{savings}$= 6.40% vs. $M_{exercise}$ = -2.12%; F (1, 128) = 2.92, p = .09). The planned contrast results showed no difference in the differences in savings estimates (%) across match conditions with salient savings goal (M_{match}= 5.31% vs. $M_{mismatch}$ = 7.74%; F (1, 128) = .11, p = .74). This result suggests that, when participants predict lower spending estimates (i.e., with fewer spending BC), participants who experienced goal conflict did not decrease their savings, although they had fewer savings BC. In contrast, the corresponding difference was significant with the salient exercise goal (M_{match} = -15.82% vs. $M_{mismatch}$ = 10.29%; F (1, 128) = 10.58, $p < .01$). In other words, participants who did not experience goal conflict decreased their savings estimates when they had fewer (vs. more) savings budget categories. In sum, these results could imply that participants are more committed to pursuing a savings goal when they experienced goal conflict in budget setting.

In the more spending BC condition (n=147), there was no significant two-way interaction effect of goal salience and match on the differences in savings estimates (%) (F (1, 138) = 1.62, p = .21). The main effect of match was significant (M_{match}= -5.37% vs. $M_{mismatch}$ = -16.21%; F (1, 138) = 4.55, $p < .05$). The main effect of goal salience was not significant ($M_{savings}$= -11.80% vs. $M_{exercise}$ = -9.57%; F (1, 138) = .16, p = .69). The planned contrast results showed that the differences in savings estimates (%) across

match conditions were significantly different from each other with salient savings goals (M_{match}= -3.17% vs. $M_{mismatch}$ = -20.57%; F (1, 138) = 5.66, p < .05). This result suggests that, when participants predicted higher spending estimates (i.e., more spending BC), those who experienced goal conflict decreased their savings estimates, but to a lesser extent as compared to those who did not experience goal conflict. In contrast, the corresponding difference was not significant with the salient exercise goal (M_{match}= -7.65% vs. $M_{mismatch}$ = -12.06%; F (1, 138) = .39, p = .54).

By repeatedly examining individuals' budget-setting behavior, I attempted to test whether or not participants would commit to keeping their savings estimates, which could infer their savings goal commitment. I found that when participants did not experience goal conflict, they tended to decrease their savings estimates. In contrast, when participants experience goal conflict, they tended to keep their savings estimates, but such a tendency was attenuated when they predicted higher spending estimates. In sum, I found supportive evidence for the proposed positive effects of goal conflict on consumer budget setting. However, the results are still based on participants' hypothetical budget-setting behavior. In the fourth study, I attempted to test whether or not my proposed positive effect of goal conflict applied to real saving behavior.

Study 4

In this study, I wanted to test the proposed effects in a more realistic setting. Participants were asked to complete the hypothetical budget-setting task and then provide their spending budgets for the next two weeks. After two weeks, participants came back to the lab and reported the amount of money spent during the preceding two

weeks. By comparing the amount of money spent in relation to their spending budgets, I attempted to test whether or not the proposed effects of the number of spending/savings BC and savings goal salience affected their real saving behavior.

Method

Participants. This study was conducted within a two-week timeframe. The first part of this study was conducted in the same manner as in previous studies (i.e., a hypothetical budget-setting task). Participants were encouraged to come back to the lab after two weeks to participate in the second part of this study. One hundred thirty-two undergraduate students participated in the first part of this study. Based on the identification number that each participant provided during the first part as well as the second part of this study, I identified a total of 119 students (48.3 % male, 81.7 % Caucasian) who participated in both parts. Students who participated in both parts were given partial course credits.

Experimental Design. This study was a 2 (goal salience: savings vs. exercise) x 2 (the number of spending BC: fewer vs. more) x 2 (the number of savings BC: fewer vs. more) between-subjects full factorial design. I dropped the order of budget category generation because it did not have any significant effects in Study 3.

Procedure. I used a similar procedure as in the previous studies for the hypothetical budget-setting task. After completing the hypothetical budget-setting task, participants were asked to think about their money management situation for the next two weeks and to provide their spending budgets for the next two weeks. Participants had a chance to revise their spending budgets. I then measured their PPMLT as well as

fluency and collected some demographic data such as gender, ethnicity, and family income level. Participants were informed that they were entered into a drawing, and five students who completed the study would receive $20 gift cards.

After two weeks, participants came back to the lab to participate in the second part of this study. Participants were first asked to indicate the amount of money spent during the preceding two weeks. I then asked participants to provide their remembered spending budgets. I again collected demographic data such as gender, ethnicity, and family income level. These data from the second part of this study were used in the final data analyses.

Results and Discussion

Manipulation Check. As in Study 3, I found no differences in paragraph evaluation for either savings or exercise (F (1,114) = 1.01, p = .32). Hence, the goal salience manipulation of either savings or exercise was successful. However, each paragraph reminded participants of either the importance of savings (M = 7.75, t (56) = 15.08, p < .001) or the importance of getting exercise (M = 7.62, t (62) = 14.10, p < .001), as intended. Hence, the goal salience manipulation was successful.

Spending Budget. In this study, I was interested in whether or not the way in which participants predicted their budget estimates in a hypothetical budget-setting task would predict their real saving behavior. Hence, after completing the hypothetical budget-setting task, I asked participants to report their spending budgets for the upcoming two weeks. This spending budget would serve as a reference point to test whether or not participants actually saved money for the next two weeks. I offered

participants a chance to revise their spending budgets. The average revised spending budget for the upcoming two weeks was $354.83, which was not different across conditions in the hypothetical budget setting (F (1,108) = 1.69, p = .20).

Errors in Memory. I first calculated the difference between participants' reported spending budget in the first part of the study (*newbudget1*) and that in the second part of the study (*newbudget2*). I subtracted the former from the latter. This error in memorizing spending budget was included as a control variable in the subsequent analysis. I conducted a three-way ANOVA on the difference in goal salience, the number of spending BC, and *match* as factors, using PPMLT (Cronbach's α=.93), fluency (Cronbach's α=.76), gender, age, ethnicity, and family income level as covariates. The results indicated that no difference occurred across conditions (F (1,107) = .16, p = .69). The family income level was a significant covariate (p < .05) whereas none of the others were (all ps > .10). The average of the difference in memory was $5.00. This was included as a covariate in the following analysis.

The Amount of Money Saved. Next, I averaged each participant's original spending budget and his or her remembered spending budget ($357.33) and subtracted the reported amount of money spent from the averaged spending budget. This indicated the amount of money each participant saved during two weeks. I then calculated the amount of money saved in percentage form, based on the averaged spending budget. To test whether or not how participants completed their hypothetical budget setting influenced their actual saving behavior, I conducted a three-way ANOVA on the amount of money saved (%), with goal salience, the number of spending BC, and *match* as

factors as well as PPMLT, fluency, gender, age, ethnicity, family income level, and error in memory as covariates. The ANOVA revealed a significant three-way interaction effect on the amount of money saved (F (1, 105) = 6.32, p = .01). As in the previous studies, I conducted a separate two-way ANOVA on the amount of money saved (%) with goal salience and *match* as factors for each spending BC condition.

In the fewer spending BC condition (n=55), a significant two-way interaction effect of goal salience and match occurred on the amount of money saved (%) (F (1, 45) = 5.60, p < .05). The planned contrast results showed that there was no difference in the amount of money saved (%) across match conditions with the salient exercise goal (M_{match}= 4.92% vs. $M_{mismatch}$ = 20.67%; F (1, 45) = .79, p = .38). In contrast, the corresponding difference was significant with the salient savings goal (M_{match}= 30.60% vs. $M_{mismatch}$ = -10.24 %; F (1, 45) = 6.81, p < .05). This result shows that, when participants engaged in budget setting by experiencing goal conflict and they expected the savings goal difficulty to a lesser extent, they were more likely to commit to pursuing savings goals and, in turn, actually saved money (supporting **H3-1**).

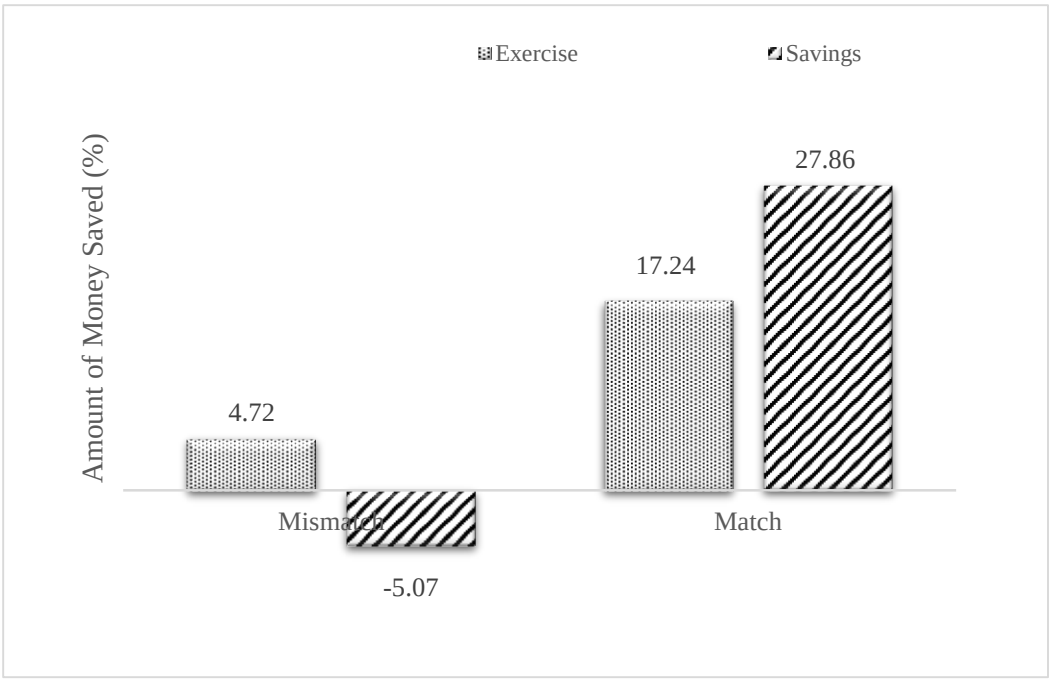
In the more spending BC condition (n=64), there was a significant two-way interaction effect of goal salience and match on the amount of money saved (%) (F (1, 54) = 5.07, p < .05). The planned contrast results showed no difference in the amount of money saved (%) across match conditions with the salient exercise goal (M_{match}= 20.16% vs. $M_{mismatch}$ = 2.97%; F (1, 54) = .75, p = .39). In contrast, the corresponding difference was significant with the salient savings goal (M_{match}= -19.87% vs. $M_{mismatch}$ = 27.46%; F (1, 54) = 4.27, p < .05), but went in the opposite direction from the effects observed in

the fewer spending BC condition. This could imply that, when participants engaged in budget setting by experiencing goal conflict and they expected the savings goal difficulty to a greater extent, they were in fact less motivated to pursue their savings goals. This result is consistent with Soman and Zhao (2011) finding that individuals tend to save more money when they have fewer (vs. more) savings goals, as more savings goals might increase the difficulty of pursuing their savings goal, thereby attenuating their savings goal commitment as well as savings goal achievement. The results are shown in Figure 5.

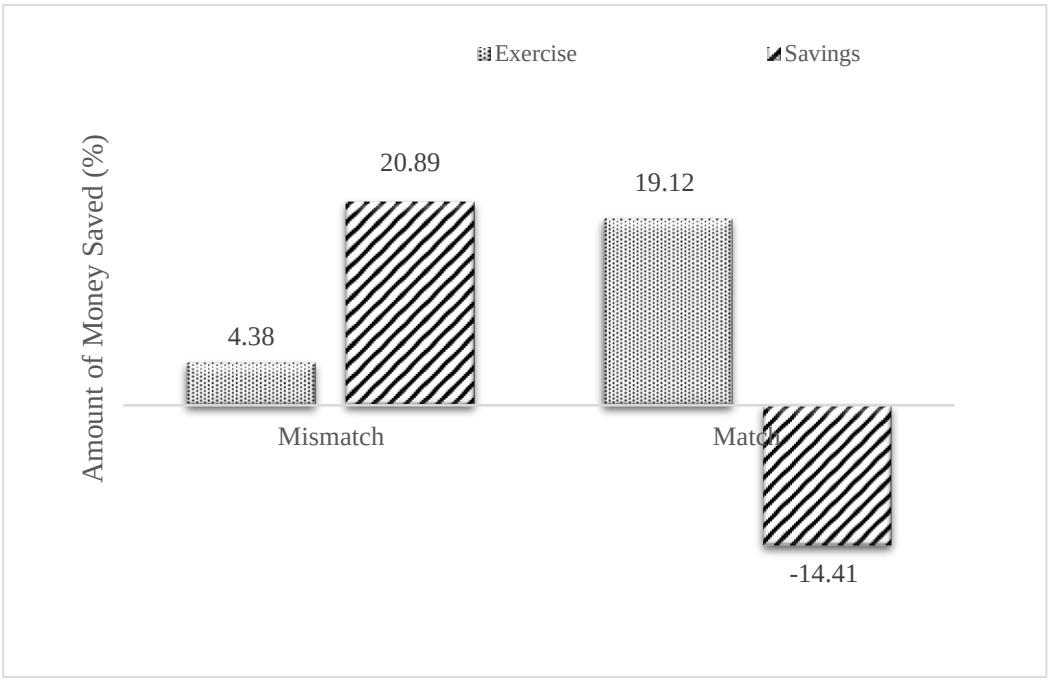
In this study, I found evidence that the way in which participants engaged in budget setting influenced their subsequent savings goal pursuit. Importantly, I found that the proposed positive effects of goal conflict (i.e., the same number of spending/savings budget categories with salient savings goals) were attenuated when participants expected to have higher spending estimates in budget setting. This might have occurred because participants perceived savings goal pursuit to be more difficult to attain due to its constraints (i.e., higher spending estimates), thereby demotivating their subsequent savings goal pursuit. In contrast, I observed that the proposed effects of goal conflict existed when participants predicted lower spending estimates. Although I focused on a single spending opportunity for a relatively short period of time, these results seem to suggest that individuals can benefit from experiencing goal conflict in budget-setting activities. Thus, individuals can form strong levels of savings commitment when budget setting by experiencing goal conflict between spending and savings and, in turn, commit to pursuing savings goals after budget setting.

Figure 5: Actual Amount of Savings in Study 4

A. Amount of Money Saved (%) in the Fewer Spending Budget Category Condition



B. Amount of Money Saved (%) in the More Spending Budget Category Condition



General Discussion

Saving money is listed as one of the most popular New Year's resolutions in the United States, according to the US Government official website. In fact, the U.S.Government (2014) prepared guidelines to help individuals succeed in their savings efforts. These guidelines suggest making a financial plan as the first step. However, plans would remain simply as plans unless an individual is committed to following up on such plans. In fact, despite the popularity of saving money as a New Year's resolution, a recent survey showed that 42% of American individuals live paycheck to paycheck and almost two-thirds of Americans do not have sufficient savings to cover three months of unanticipated financial hardship (FINRA 2011). Hence, an important question facing policymakers, professional financial advisors, and individuals is how to encourage individuals to increase their savings (FINRA 2011; Ü lkümen and Cheema 2011). Extending the previous findings regarding the beneficial effects of goal conflict on goal setting, this research suggests that individuals can benefit from experiencing goal conflict between spending and savings in budget setting. Moreover, I suggest that the sub-processes of budget setting (i.e., budget category generation and budget estimation) play a key role in creating goal conflict.

Contributions and Implications

Saving success might be linked to self-control issues (Heath and Soll 1996), meaning that individuals might need to override their present spending desires in order to save money for the future (Baumeister 2002). Prior research has found that, in order to exert self-control, individuals need to rely on three major components: the standards, the

monitoring process, and the operational capacity to alter one's behavior (Baumeister 2002). Budgets, as predetermined financial goals for possible spending and saving situations, could act as a clear standard for savings goal pursuit (Heath et al. 1999; Heath and Soll 1996). Therefore, individuals should consistently monitor their spending and savings progress in relation to their predetermined budgets for financial goal success (Cheema and Soman 2006; Haws et al. 2012; van Ittersum et al. 2010). Indeed, it is critical to understand how individuals can set budgets to which they can commit. This research addresses this important question. Based on goal-setting theory, I suggested and offered evidence that individuals can have *committable* budgets when they consider both spending and savings during budget-setting efforts (Gollwitzer et al. 2010; Gollwitzer and Oettingen 2011; Oettingen and Gollwitzer 2001). Specifically, I suggested that individuals set committable budgets by varying the number of budget categories they consider when budget setting. This research also posited that two budgetary goals—spending and savings—should be simultaneously considered. Budget setting for a single budgetary goal might automatically assume that the rest of one's financial resources ae to be allocated to the other budgetary goal. However, under such circumstances, it is not clear how an individual might experience goal conflict and subsequently set the budgets.

My findings further contribute to understanding the mixed findings form previous studies regarding the effect of planning on multiple goal pursuits. Planning benefits consumers' goal pursuit (Gollwitzer 1999); however, when planning heightens the difficulty of goal pursuit, it can harm goal success, especially in a multiple-goal

pursuit situation (Dalton and Spiller 2012; Townsend and Liu 2012). By exploring how the number of budget categories (i.e., sub-goals for each budgetary goal) influences one's budget estimation as well as one's savings goal commitment, I identified situations in which budget-setting (i.e., financial planning) benefits the consumer's savings goal pursuit. The number of budget categories can represent the specificity of one's financial planning. As such, my findings suggest that a less specific plan can work as effectively as a more specific one. Prior research provides evidence for the beneficial effects of specific plans on goal attainment (Gollwitzer 1999; Webb and Sheeran 2007). However, I find that loosely defined plans might also encourage individuals to pursue their goals when such loose plans lead individuals to exercise their self-regulation. As Dalton and Spiller (2012) noted, when such loose plans represent how individuals construe their goal pursuits, there would no reason for the loose plans to be detrimental to their goal pursuits. The current research demonstrated that, if loose plans are made based on a consideration of possible obstacles (e.g., spending budget categories) with desirable savings opportunities to a similar extent, it can encourage individuals to continue their savings goal pursuits.

Finally, financial advisors and policymakers can also benefit from the current findings. By suggesting a simple but effective budget-setting strategy, they can encourage individuals with limited incomes to save more money (Bertrand, Mullainathan, and Shafir 2006), prepare for future financial needs (e.g., healthcare and retirement) (Iyengar, Jiang, and Huberman 2004), and ultimately promote economic stability (Ü lkümen and Cheema 2011).

Future Research and Conclusions

As this work joins the recent stream of research focusing on the importance of budget setting in consumer financial goal pursuits, many possible extensions and future research directions remain. First, the results of this research is based on student sample. Hence, the results may not represent the saving behavior of non-student sample. Future research may explore whether the proposed effects hold with non-student sample to generalize the current findings.

Second, this research focuses on how one's budget setting influences savings goal pursuit in a relatively short-term perspective (e.g., monthly budget setting). As Tam and Dholakia (2011) found, the effects of timeframe duration can produce different budget-setting behaviors as well as different levels of savings goal success. Hence, it is worth exploring the interaction between the proposed effects from the current study and the possible effect of timeframe duration in budget setting. I also introduced the importance of the interdependence among multiple budgetary goals in budget setting. However, it remains unclear how such an interdependence influences one's savings goal pursuit in budget tracking. If future research examines the effects of such an interdependence in budget tracking, we can better understand the beneficial effects of budgeting on consumer savings.

CHAPTER III

DIFFERENT PATHS, SAME DESTINATION: HOW MONEY-VIEWS AND SELF-VIEWS JOINTLY INFLUENCE SAVING BEHAVIOR

Introduction

Saving plays an important role in consumer financial well-being, as it alleviate the detrimental impact of income shocks, unexpected expenditures and other financial uncertainties (Modigliani 1986). Despite the importance of saving, it is well-known that most Americans do not save enough money (Kotlikoff and Summers 1981; Ü lkümen and Cheema 2011). Accordingly, academics, policy makers, and professional financial advisors have tried to identify factors that affect saving behavior (Kotlikoff and Summers 1981; Thaler and Benartzi 2004). For example, researchers have examined the effects of culture in explaining cross-country variations in savings rates (Carroll, Rhee, and Rhee 1994; Chen 2013). Other researchers have examined the effects of individuals' temporal focus (Hershfield et al. 2011; Nenkov et al. 2008), financial status (Bertrand et al. 2006), self-control (Vohs and Faber 2007), and the type of saving goals (Soman and Zhao 2011; Ü lkümen and Cheema 2011).

Though prior literature has identified a variety of factors that influence saving behavior, little research has studied the role of the psychology of money (i.e., how money is perceived) in this process. Prior literature shows that money perceptions influence individuals' motivation and behavior in various contexts (Furnham 1984; Furnham and Argyle 1998; McClelland 1967; Tang 1992; Vohs et al. 2006; Yamauchi

and Templer 1982). Recent research argues that such motivational effects of money would affect individuals' attentional focus (Lea and Webley 2006), which may then influence whether individuals pursue the same goal through minimizing losses or maximizing gains (Chernev 2004; Higgins 1997; Pham and Higgins 2005). These findings combined imply that how money is perceived (i.e., money-views) should be closely related to individuals' saving behavior. That is, individuals' money-views would affect their attentional focus, and subsequently their motivational orientations in saving. This topic is important given the significance of saving and the fact that everyone perceives money differently. Yet, to my knowledge, little research has examined this issue.

To fill this gap in the literature, the current research proposes that individuals' money-views would influence their attentional focus, which in turn would affect their motivational orientations and the type of strategies they apply in saving. Prior literature posits that individuals view money as a means (vs. an end in itself) if they focus on the exchange value of money (vs. the money itself) (Lea and Webley 2006). This implies that, when individuals view money as a means (vs. an end in itself), they are likely to attend to how to use money (vs. how to accumulate money), highlighting potential losses (vs. gains) in financial assets when saving is of interest. Hence, I propose that individuals who view money as a means (vs. an end) are likely to prefer a saving strategy that minimizes losses (vs. maximizes gains) in financial assets.

Moreover, the meaning of money has often been discussed together with the meaning of such social constructs as ethics (Furnham 1984; Tang 1992) and power

(Garbinsky, Klesse, and Aaker 2014; Rucker, Dubois, and Galinsky 2011; Yamauchi and Templer 1982). Therefore, the effects of money perceptions on saving behavior could be better understood when examined together with the effects of social perceptions, such as those of their self-views. Prior literature shows that self-views (i.e., how individuals perceive themselves in relation to others) influences their motivation and behavior, similar to the effects of money perceptions (Cross, Hardin, and Gercek-Swing 2010; Markus and Kitayama 1991). For instance, interdependent (vs. independent) individuals tend to focus more on losses (vs. gains), thereby trying to minimize losses (vs. maximize gains) when pursing a goal (Aaker and Lee 2001; Hamilton and Biehal 2005; Lee et al. 2000; Zhou and Pham 2004). By extending these findings to the context of saving, I predict that individuals who view themselves as interdependent (vs. independent) are likely to prefer a saving strategy that minimizing losses (vs. maximizing gains) in financial assets.

More importantly, I further propose that individuals are more motivated to save when their money- and self-views "match" each other and lead to preferences for the same (vs. different) saving strategy. Past research posits that, when individuals experience a feeling of fit in the course of goal pursuit, their subjective experience of engagement would be increased, and they would become more motivated to pursue the goal (Higgins 2006; Lee et al. 2010; Wadhwa and Zhang 2015). Following this argument, I predict that individuals would experience a fit when their money-view and self-view make them focus on the same saving strategy. As a result, such a fit would increase individuals' engagement in saving, thereby motivating them to save more.

This research makes both theoretical and practical contributions. First, it contributes to expanding the existing knowledge on saving behavior as well as on the psychology of money. This research is the first to investigate how money perceptions would influence saving behavior. Though "money" is the main component in financial decisions, little research has investigated the effects of money perceptions on saving. The current research fills this gap by showing that money perceptions influence the way individuals pursue their saving goal, i.e., by either minimizing financial losses or maximizing financial gains. Accordingly, this research sheds light on the important role that the psychology of money plays in understanding saving behavior. Moreover, this research supports the prior findings that money perceptions are closely related to social perceptions. By showing that individuals' money- and social perceptions jointly influence their motivation for saving, the current research expands our understanding of personal finance management. Past literature argues that individuals' saving behavior can be encouraged when appropriate behavioral savings programs are implemented (Thaler and Benartzi 2004). Based on the current findings, policy makers as well as personal finance managers can design more effective savings programs by "priming" the appropriate ways of viewing money and/or self among consumers.

The remainder of the essay is organized as follows. First, I discuss how money- and self-views would predict their motivational orientations in saving, and the interaction effect between these two views. I then test my predictions in a series of studies, and document results that are largely supportive of my predictions. Finally, I

conclude with implications of the current findings for theory and practice, as well as directions for future research.

Theoretical Background

The Psychology of Money and Saving Behavior

Researchers have examined the factors that influence saving behavior from various perspectives. For example, researchers have questioned whether intrinsic characteristics of countries would explain the frequently observed variations in savings rates (Bosworth 1993; Carroll et al. 1994; Chen 2013). Another stream of research explored saving behavior at the individual level. For instance, researchers argue that individuals' temporal focus would predict their saving behavior since the future-focus tendency encourages more future-oriented decisions (Hershfield et al. 2011; Lynch et al. 2010; Nenkov et al. 2008). Other researchers have explored the effects of current financial status on saving decisions and found financially better-off individuals are more informed, so they are able to make better financial decisions, including saving (Bertrand et al. 2006). Other researchers suggest that self-control is closely related to saving behavior since it represents individuals' ability to suppress their desire for instant gratification, thereby leading them to make more future-oriented decisions (Vohs and Faber 2007). Another group of researchers have explored saving behavior from goal pursuit perspective. For example, researchers find that the number of saving goals individuals have (Soman and Zhao 2011) and the construal of saving goals would influence their saving behavior (Ü lkümen and Cheema 2011).

Though prior research has provided explanations for saving behavior from various perspectives, little research has explored how the psychology of money (i.e., money perceptions) would influence saving. Money perceptions would play an important role in understanding individuals' saving behavior since money is an indispensable part of any financial activity. As such, the current research investigates the role of money perceptions in saving behavior.

Money-View and Motivational Orientations in Saving

Prior literature has well-documented that individuals' motivation and behavior would differ depending on how they perceive money (Furnham 1984; Furnham and Argyle 1998; Lawler 1981; McClelland 1967; Tang 1992; Vohs et al. 2006; Yamauchi and Templer 1982). For example, when individuals perceive their income as a symbol of their achievement, a higher income would provide a greater motivational boost (Locke and Latham 1990; Tang 1992; Yamauchi and Templer 1982). Also, when individuals hold a negative (vs. positive) view of money, they tend to manage their money in a conservative manner (Furnham and Bland 1983). In sum, these findings show the effects of money perceptions on individuals' motivation and behavior. Hence, money perceptions are expected to influence individuals' motivation to save as well as their real saving behavior. Since saving behavior is often considered as goal pursuit (Soman and Zhao 2011; Ü lkümen and Cheema 2011), this research is particularly interested in how money perceptions influences the way individuals pursue their saving goal.

Recent research argues that individuals differ in how they perceive money as a behavioral incentive (i.e., money-views), focusing on the exchange value of money or

on the money itself (Lea and Webley 2006). Money was originally invented to facilitate and expedite the exchange of goods and services (Furnham and Argyle 1998; Lea and Webley 2006) and is traditionally viewed as a medium of exchange in consumption (Furnham and Argyle 1998; Lea and Webley 2006). Money is meaningful and valuable because it enables individuals to obtain what they want (Vohs and Baumeister 2011). According to this view, goods and services exchanged with money will serve as a direct behavioral incentive (Lea and Webley 2006), and money serves as an indirect behavioral incentive when individuals attend to the exchange value of money.

However, other research findings suggest another possibility, that money itself can directly motivate one's behavior when individuals attribute meaning to money regardless of its exchange value and perceive money as an end in itself (Lea and Webley 2006). For example, individuals tend to perceive two coins differently, even when the two coins represent the same economic value (Lea 1981). They are more heavily influenced by the nominal value of money rather than its real value (i.e., money illusion) (Fehr and Tyran 2001; Shafir, Diamond, and Tversky 1997). They also resist using new forms of money (Borneman and Fowler 1997) and are more likely to spend dirtier (vs. cleaner) bills (Di Muro and Noseworthy 2013). These findings cannot be readily explained by the view of money as a means, since individuals tend to exhibit different behaviors even though there are no differences in the exchange value of money. Such findings can be understood by assuming that money itself intrinsically motivates consumer behavior (Lea and Webley (2006). Under such circumstances, money can have additional meanings beyond its exchange value (Tang 1992). Hence, even when

individuals do not pay attention to what goods or services can be exchanged with money, money itself can influence their behavior as a direct behavioral incentive (Lea and Webley 2006).

In sum, when individuals view money as a means (vs. an end in itself), money will indirectly (vs. directly) motivate their behaviors (Furnham 1984; Lea and Webley 2006; Mitchell and Mickel 1999). Building on this distinction, I propose that individuals' money-view (i.e., money as a means or money as an end in itself) would shift their attentional focus, which in turn result in different motivational orientations in saving. Specifically, when money is viewed as a means, individuals focus on what they can obtain by spending money. In contrast, when money is viewed as an end in itself, individuals focus on how they can accumulate money (Carroll 1998). The use of money pertains to losses in financial assets, whereas the accumulation of money pertains to gains in financial assets. As prior literature posits, such different attentional foci would lead to different motivational orientations in saving (Chernev 2004; Higgins 1997; Idson, Liberman, and Higgins 2004). That is, if individuals focus on losses (vs. gains) in financial assets, they are likely to achieve their saving goal by managing their financial loses (gains). As a result, when saving is of interest, individuals who have the money-as-means (vs. money-as-end) view are more likely to prefer a saving strategy that minimizes losses (vs. maximizes gains) in financial assets.

H1a: Individuals who view money as a means are more likely to prefer a saving strategy that minimizes losses of financial assets.

H1b: Individuals who view money as an end are more likely to prefer a saving strategy that maximizes gains of financial assets.

The Interaction between Money-View and Self-View

On the basis of the role of money-view in saving behavior, I further suggest that such effects of money-views can be better understood when considered together with the effects of social perceptions.

Researchers oftentimes discuss the meaning of money in the context of other social constructs as money is an indispensable part of the social system (Lea and Webley 2006; Zelizer 1989). For example, researchers find that individuals tend to perceive the meaning of money as the source of morality (Furnham 1984; Tang 1992), or as the source of power (Furnham and Argyle 1998; Yamauchi and Templer 1982). Moreover, past research further shows that the way individuals act with money is closely related to how they socially behave. For example, family dynamics is closely related to household money allocation decisions (Burgoyne 1990; Millman 1991; Vogler 1998; Zelizer 1989), and power perceptions are relevant to how individuals spend money (Rucker et al. 2011) (Rucker et al. 2011) or save money (Garbinsky et al. 2014). Individuals tend to behave more independently (vs. interdependently) in the presence of money since money elicits the feelings of self-sufficiency (Vohs et al. 2006; Zhou, Vohs, and Baumeister 2009). These findings imply that money perceptions are closely related to social perceptions in influencing individuals' motivation and behavior. Extending these arguments, I propose that the effects of money perceptions on saving behavior can be better understood when considered together with the effects of social perceptions such as self-views (i.e., how

individuals perceive themselves in relation to others) (Cross et al. 2010; Markus and Kitayama 1991).

Self-view represents how individuals perceive their presence (i.e., *self*) in a social environment. For example, some individuals perceive themselves as fundamentally independent and separate from others (i.e., independent self-view), whereas other individuals perceive themselves as connected to others and defined by their relationships with others (i.e., interdependent self-view) (Cross et al. 2010; Singelis 1994; Triandis 1989). Moreover, prior literature has documented that the way in which individuals view themselves in relation to others is linked to their attentional focus and motivational orientations (Cross et al. 2010; Markus and Kitayama 1991). For example, past research contends that interdependent (independent) individuals are more likely to focus on possible losses (gains) and make decisions that aims to minimize (maximize) losses (gains) due to their inherent tendency to view their goals as either ideals/inspirations or duties/responsibilities (Aaker and Lee 2001; Hamilton and Biehal 2005; Lee et al. 2000). Following these arguments, similar to my predictions on the effects of money perceptions on motivational orientations in saving, I predict that interdependent (vs. independent) individuals are more likely to prefer a saving strategy that minimizes losses (vs. maximizes gains) in financial assets.

H2a: Interdependent individuals are more likely to prefer a saving strategy that minimizes losses of financial assets.

H2b: Independent individuals are more likely to prefer a saving strategy that maximizes gains of financial assets.

Based on my predictions on the effects of individuals' money- and self-views on their motivational orientations in saving, I further propose an interaction effect between these two views on individuals' motivation to save. Past research suggests that a feeling of fit would increase one's subjective experience of engagement. A feeling of fit is characterized by a sense of 'feeling right,' 'feeling confident,' or 'feeling motivated' (Higgins 2006; Idson et al. 2004; Lee et al. 2010). When individuals experience a fit, they are more likely to engage in behavior by feeling more "involved, occupied, interested and attentive." (Higgins 2006, p. 442) Such an increased engagement then leads individuals to be more motivated (Higgins 2006). Following this stream of research, I predict that, when individuals' money- and self-views lead them to prefer the same (vs. different) saving strategy (i.e., focusing on either minimizing losses or maximizing gains), they would experience a fit and in turn be more engaged in saving. Subsequently, individuals would become motivated to save more.

H3: Individuals are more motivated to save when their money views and self-views lead them to prefer the same (vs. different) saving strategies.

H4: The proposed effect in **H3** is mediated by individuals' experience of engagement in saving.

Overview of Studies

I tested my hypotheses through a set of seven studies. Study 1A used money-related quotes to manipulate money-as-means or money-as-end view. Study 1B used word scramble and sentence completion tasks as an alternative money-view manipulation. Study 1B also included a control condition for benchmarking purposes. As

predicted, results from both studies showed that participants who were primed with the money-as-means (end) view thought of more saving strategies that focused on minimizing losses (maximizing gains) in their financial assets (**H1a** and **H1b**). Moreover, I found that the preferred saving strategies in the money-as-means condition and the control condition were similar, suggesting that money-as-means would be a default money view.

In Study 2, I then test the effects of self-views on the preferred saving strategies. For this purpose, I asked participants to write an essay on either their similarities with their family and friends (i.e., interdependent view) or their differences from their family and friends (i.e., independent view). I found that interdependent (independent) participants allocated more efforts to saving strategies that focused on minimizing losses (maximizing gains) in their financial assets (**H2a** and **H2b**).

Having obtained supporting evidence concerning the predicted effects of money- and self-views on the preferred saving strategies, I move on to test the proposed interaction effect of the two views on motivations for saving in studies 3A, 3B, 4, and 5. I found that participants who were primed with the interdependent (independent) self-view *and* the money-as-means (end) view allocated more money to savings than other participants (**H3**). In addition, I found that participants experienced increased engagement in saving when they were primed with the interdependent (independent) self-view *and* the money-as-means (end) view, thereby allocating more money to savings (**H4**). Finally, such an interaction effect was observed in individuals' real saving behavior. In Study 5, I measured participants' chronic money-view, self-view, and actual

savings rates. Results showed that, when participants' money- and self-views would predict the same (vs. different) preference in saving strategies, their reported actual savings rates were higher.

Study 1A

The objective of Study 1A was to test whether individuals' money-view would lead to different preferences for saving strategies that emphasize either minimizing losses or maximizing gains in financial assets (**H1**).

Method

Participants. Seventy U.S. adult participants (60.0% male, 78.6% Caucasian, average age of 35.4 years) were recruited from the Amazon's Mturk. All participants were working individuals.

Design and Procedure. Participants were randomly assigned to one of the two money-view conditions (money-as-means vs. money-as-end). To manipulate participants' money-view, they were asked to write a supporting essay on a quote that describes money either as a means ("Money is worth what it will help you to produce or buy and no more") or as an end ("Wealth is a planned result that requires productive work and dedication"). These two money quotes were selected from a pretest. In the pretest (N = 55), participants were asked to evaluate whether each statement focuses on the exchange value of money or money itself (1: *Focuses on the exchange value of money,* 9: *Focuses on money itself*). A t-tests showed that the former statement focused on the exchange value of money (M = 4.00; t (54) = -2.73, p < .01), whereas the latter statement focused on money itself (M = 6.64; t (54) = 5.46, p < .01), as compared with

the mid-point of 5 on a 9-point scale. Participants in the pretest were also asked to indicate when the narrator of each statement would be happier (1: *When s/he spends money*, 9: *When s/he saves money*). A t-tests showed that the narrator of the money-as-means statement would be happier when s/he spent money (M = 3.75; t (54) = -3.38, p < .01), whereas the narrator of the money-as-end statement would be happier when s/he saved money (M = 7.15; t (54) = 8.84, p < .01), as compared with the mid-point of 5 on a 9-point scale. Hence, these two statements represent the corresponding money-view as intended.

After the writing task, participants were asked to indicate the extent to which they agreed with the money quote provided (1: *Strongly Disagree*, 9: *Strongly Agree*). Then, participants were asked to write down their own saving strategies, and to categorize each saving strategy into either "minimizing-losses-type" or "maximizing-gains-type". Details of the instruction are as follows:

> *When it comes to money management, some people seek potential ways to increase their financial resources. In contrast, other people seek potential ways to avoid losses in their financial resources. Please list your OWN money management tactics below, and determine each tactics is preferred by the former or the latter type of people. Your answers will help us to understand how people manage their money.*

Next, participants were asked to indicate their agreements to temporal focus measures on 9-point scale (1: *Strongly Disagree*, 9: *Strongly Agree*), adopted from Shipp, Edwards, and Lambert (2009). Four items measured participants' tendency to

focus on the present, and other four items measured their tendency to focus on the future. The order of all temporal focus scale items was randomized. To calculate participants' relative temporal focus (RTF thereafter), I subtracted the averaged present focus tendency ($\alpha = .82$) from the averaged future focus tendency ($\alpha = .87$). Participants' temporal focus was expected to influence their saving behavior (Chen 2013; Lynch et al. 2010; Nenkov et al. 2008), so it was included as a control variable in the analysis. Finally, I collected some demographic information (e.g., gender, age, ethnicity, education, job, and family income).

Results and Discussion

Manipulation Check. To check whether participants agreed with each money quote provided to them, I first ran a one-way ANOVA with money view as a factor, and one's RTF as well as demographics as covariates. Results showed that there was no difference in the extent to which participants agreed with each quote ($M_{Means} = 7.82$, SD = 2.44 vs. $M_{End} = 7.81$, SD = 1.65; F (1, 61) = .04, $p = .85$). One's ethnicity ($p < .10$) was marginally significant, and all other covariates were not significant (all $ps > .10$). Also, participants in the money-as-means condition ($M_{Means} = 7.82 > 5$, t (33) = 6.74, $p < .01$) as well as those in the money-as-end condition ($M_{End} = 7.81 > 5$, t (35) = 10.18, $p < .01$) tend to agree with the money quote given to them, as compared to the mid-point of 5 on the 9-point scale. Hence, participants' money-view was successfully manipulated as I intended.

Preferred Saving Strategy. To check the validity of the participants' categorization of saving strategies, I recruited two independent judges on Mturk. Two

judges were blind to condition and coded each listed saving strategy as either focusing on minimizing financial losses or focusing on maximizing financial gains. The average percentage of two judges' decisions that were consistent with participants' own decisions for their saving strategy was 84.08%. Moreover, the two judges' decisions were highly correlated with each other (r = .92, p < .05). Since participants' own categorization decisions on their saving strategies were highly consistent with two judges' decisions, I used participants' self-reported type of saving strategies in my analysis.

Participants' preferred saving strategies were measured by the number of saving strategies that focused on minimizing losses and maximizing gains in financial assets. A relative measure was calculated by subtracting the latter from the former. The measure indicated participants' preference for a saving strategy that focuses on minimizing losses (vs. maximizing gains) in financial assets.

To test whether each money-view predicts the different saving strategies, I ran a one-way ANOVA on one's relative preference for a saving strategy with money view as a factor, and one's RTF and demographic variables as covariates. Results showed that participants who wrote the essay supporting the money-as-means (vs. money-as-end) generated more saving strategies that focused on minimizing losses (vs. maximizing gains) in financial assets (M_{Means} =.76, SD = 1.30 vs. M_{End} = -.61, SD = 1.48; F (1, 61) = 16.37, p < .01). Participants' education level was a significant covariate (p = .05), and none of other covariates were significant (all ps > .10). These results support my prediction on how individuals' money-view predicts their preferences for saving

strategies. When participants are primed with the money-as-means (vs. money-as-end) view, they are likely to pursue saving with saving strategies that focus on minimizing losses (vs. maximizing gains) in their financial assets[1].

While the results are supportive of **H1a** and **H1b,** the writing task to manipulate the money-view may be considered as heavy-handed. In addition, this study did not include a control condition. To the extent that money was originally invented to facilitate trading of goods/services (Lea and Webley 2006), the preferred saving strategies in the control condition would be similar to those in the money-as-means condition. I conducted the next study to replicate the results of Study 1A and to take care of these issues.

Study 1B

The main objective of this study is to replicate results from Study 1A using a different money-view manipulation. I also included a control condition as a benchmark for the results in the treatment conditions.

Method

Participants. A total of 109 U.S. adult participants from the Amazon's Mturk (52.3% male, 68.8% Caucasian, average age of 33.2 years) were recruited for this study. All participants were working individuals. Each participant was paid $.30 for completion of the study.

[1] In all my studies, the manipulation(s) did not influence participants' relative temporal focus (all *p*-values > .10).

Design and Procedure. Participants were randomly assigned to one of the three money-view conditions (money-as-means vs. money-as-end vs. control). To manipulate money view, I used a word scramble task with five words that are related to the meaning of *means* (e.g., medium, procedure) or the meaning of *end* (e.g., goal, purpose), and a sentence completion task with three words for each condition. For the control condition, I used five neutral words (e.g., computer, sheet). All words were selected from a pretest (N=121). For the main study, five words that had similar levels of accuracy in the pretest were chosen for each money-view. Then three words were chosen for the sentence completion task by excluding the two words that had the lowest or highest level of accuracy. The details for the word scramble and the sentence completion tasks are summarized in Tables 1 and 2.

After the money-view manipulation, participants were asked to indicate how interesting the word scramble and sentence completion tasks were (1: *Not at all*, 9: *Very interesting*). Then participants were also asked to indicate their agreements to the two money quotes that were used as the money-view manipulation in Study 1A ("Money is worth what it will help you to produce or buy and no more" and "Wealth is a planned result that requires productive work and dedication"), on 9-point scale (1: *Strongly Disagree*, 9: *Strongly Agree*). Participants were then asked to generate their own saving strategies and categorize each into either saving strategies.

Next, I measured participants' temporal focus, including the present focus (α = .86) and the future focus (α = .93). Finally, I collected some demographic information (e.g., gender, age, ethnicity, education, job, and family income).

Table 1: Words Used for the Word Scramble Task in Study 2B

	Word	Scramble Form	Correct Answers (%)
Money-as-Means (Average: 69.4%)	process	coerpss	50.0
	procedure	uercdorep	58.8
	instrument	urtnitensn	76.5
	tactics	cttcais	79.4
	medium	eidmmu	82.4
Money-as-End (Average: 66.5%)	destination	enitoasintd	51.4
	purpose	srpopeu	62.2
	aim	iam	64.9
	target	getrta	64.9
	ideal	ldeai	89.2
Control (Average: 71.2%)	kitchen	chinkte	60.0
	computer	teuoprmc	64.0
	dog	ogd	66.0
	cat	atc	80.0
	sheet	heest	86.0

Table 2: Words Used for the Sentence Completion Task in Study 2B

	Word	Sentence Completion Form
Money-as-Means	means	These pledges are a _____ to avoid prosecution.
	tool	It'd make a good bargaining _____ for a deal.
	method	She explained a simple _____ for make a pie crust.
Money-as-End	end	Each would use the other to further his own _____(s).
	objective	The system has achieved its _____.
	goal	The next _____ was completing her training in pediatrics.
Control	formal	Folks were a bit more _____ back then.
	informative	She gave an _____ presentation.
	question	It wasn't a _____, but a flat statement.

Results and Discussion

Manipulation Checks. To check whether there was a difference in the extent to which participants thought the word scramble and sentence completion tasks were interesting, I ran a one-way repeated measure ANOVA with money view as a between-subject factor, and one's RTF and demographics as covariates. Results showed that there was no difference across conditions in terms of how interesting the word scramble and sentence completion tasks were (F (2, 99) = .79, p = .46).

To capture participants' agreement to the money-as-means (vs. end), I subtracted their agreement to the money-as-end quote from that to the money-as-means quote. To test whether the money-view manipulation was successfully, I ran a one-way ANOVA on this measure with money view as a factor, and one's RTF as well as demographics as covariates. Results showed a marginally significant effect (F (2, 99) = 3.06, p = .05). Pairwise comparisons showed that the difference between the money-as-means and the money-as-end conditions was significant (M_{Means} = .34, SD = 3.02 vs. M_{End} = -.94, SD = 2.43; p < .05). The difference between the money-as-means and the control conditions was not significant (M_{Means} = .34, SD = 3.02 vs. $M_{Control}$ = .31, SD = 2.62, p = .98). The difference between the money-as-end and the control conditions was significant (p < .05). These results suggest that participants' money-view was successfully manipulated as I intended, and that money-as-means would be the default view.

Preferred Saving Strategy. Similar to Study 1A, two independent judges recruited from Mturk coded each saving strategy as either focusing on minimizing financial losses or focusing on maximizing financial gains. The average percentage of

two judges' decisions that were consistent with participants' own decisions for their saving strategy was 87.11%. Moreover, the two judges' decisions were highly correlated with each other (r = .83, p < .05). Hence, as I did in Study 1A, I used participants' self-reported type of saving strategy in my analysis.

Next, I calculated the relative number of saving strategies that focused on minimizing losses (vs. maximizing gains) in financial assets. Then, I ran a one-way ANOVA with money view as a factor and one's RTF and demographics as covariates. Results showed significant differences across the three money-view conditions (F (2, 99) = 7.79, p < .01). Simple contrasts showed that participants who were in the money-as-end condition (M = -.61, SD = 1.07) generated more saving strategies that aimed to maximize gains, as compared to those who were in the money-as-means condition (M = .45, SD = 1.06, p < .01) or those in the control condition (M= .31, SD = 1.55, p < .01). There was no significant difference between the money-as-means and control conditions (p >.10). No covariates were significant (all ps >.10). These results provide additional support for **H1a** and **H1b**, and further suggest that money-as-means may be the default view as participants in the money-as-means condition behaved similarly to those in the control condition.

The results of Study 1B replicated my findings of Study 1A with a less heavy-handed money-view manipulation. In addition, I found that the money-as-means would be the default money view. This result implies that saving strategies that focus on maximizing gains in financial assets, though possible, may not be prevalent in real life situations.

Study 2

In this study, I tested **H2a** and **H2b** concerning the effects of individuals' self-views on their preferred saving strategies. Though prior literature on self-view has documented that interdependents (independents) are more likely to focus on minimizing possible losses (maximizing possible gains) (Aaker and Lee 2001; Hamilton and Biehal 2005; Lee et al. 2000; Zhou and Pham 2004), in this study I empirically establish this relationship in the context of saving, as a test of **H2** and as a basis for testing **H3**.

Method

Participants. A total of 95 US adult participants from the Amazon's Mturk (54.7% male, 84.2% Caucasian, average age of 35.8 years) were recruited for this study. All participants were working individuals, and compensated with $.30 for completion of this study.

Design and Procedure. To manipulate self-view, participants were asked to write a short essay either on their similarities with their family/friends (i.e., interdependent self-view) or their differences (i.e., independent self-view) (Trafimow, Triandis, and Goto 1991). After completing the writing task, participants were asked to indicate their agreement to three items of interdependent self-view, and three items of independent self-view, all on 7-point scales (1= *Strongly Disagree*, 7= *Strongly Agree*). The items of interdependent self-view include "I am focused on others I care about," "The essay task encourages me to think of others I care about," and "Now, the sense of "we" is at the top of my mind." The items of independent self-view include "I am focused on myself,"

"The essay task encourages me to think of myself," and "Now, the sense of "I" is at the top of my mind." The order of all six self-view scale items was randomized.

Table 3: Examples of Saving Strategies Used in Study 2

Saving strategies	Examples	Correctly Categorized (%)
Minimization of losses	Cut expenses for necessities	77.5
	Cut expenses for luxuries	80.0
	Setting budgets for spending	72.5
	Keep a record of expenses	77.5
	Avoid unexpected expenses	90.0
Maximization of gains	Increase 401K contribution	82.5
	Invest in stocks and bonds, etc.	82.5
	Seek a job that pays more	87.5
	Take a part-time job	82.5
	Attend personal finance seminars	70.0

Next, participants were presented with ten popular saving strategies; 5 saving strategies focused on minimizing losses in financial assets (e.g., cut expenses for necessities and avoid unexpected expenses) and 5 saving strategies focused on maximizing gains in financial assets (e.g., increase 401K contribution and seek a job that pays more). Examples of these saving strategies are summarized in Table 3. These saving strategies were identified in a pretest (N = 40) where participants were asked to categorize each saving strategy into either type, and the binomial test results showed that these saving strategies represented the corresponding saving strategies successfully (all *p*s < .05). Then, participants were asked to indicate how much effort they would put into

each saving strategy in order to save money (summed up to 100%). Next, I measured participants' present focus tendency (α = .91) and their future focus tendency (α = .89). Finally, demographic information (e.g., gender, age, ethnicity, job, and family income) were collected.

Results and Discussion

Manipulation Check. To check whether or not the self-view was successfully manipulated, I first averaged the three items on the independent self-view scale (α=.86), and the three items on the interdependent self-view scale (α=.85). Then, I subtracted the averaged independent self-view scores from the averaged interdependent self-view scores. I ran a one-way ANOVA on this measure with self-view as a factor, and one's RTF and demographics as covariates. Results showed that the self-view manipulation was successful ($M_{Independent}$ = -. 93, SD = 2.28 vs. $M_{Interdependent}$ = 1.33, SD = 1.81; F (1, 87) = 31.02, p < .01). Gender (p = .07) and RTF (p < .01) were significant covariates.

Effort Allocation. I summed up the allocated effort for each of the two types of saving strategies, and ran a one-way ANOVA on this measure. The result shows that interdependent (vs. independent) participants allocated more efforts to saving strategies emphasizing minimizing losses (vs. gains) ($M_{Independent}$ = 53.29%, SD = 17.15% vs. $M_{Interdependent}$ = 65.42%, SD=17.45%; F (1, 87) = 9.03, p < .01). No covariates were significant (all ps >.10). This result is consistent with the literature; that is, interdependents (independents) are more likely to focus on minimizing losses (maximizing gains) in goal pursuit (Aaker and Lee 2001; Hamilton and Biehal 2005; Lee et al. 2000). Moreover, this result replicated such a relationship between self-views and

attentional focus in the context of saving, which was the first to be empirically tested. Hence, this study supports my prediction of the relationship between the self-view and the preferred saving strategies (supporting **H2a** and **H2b**).

Study 3A

In the previous studies, I tested and found supporting evidence for how individuals' money-view and self-view affect their strategic preferences in saving. Participants who were primed with the money-as-means (money-as-end) view or those who were primed with the interdependent (independent) self-view prefer saving strategies that minimize losses (maximize gains) in financial assets.

In addition to these main effects, I further predict an interaction effect such that individuals are more motivated to save when their money- and self-views would predict the same (vs. different) saving strategies (**H3**). In other words, when individuals view money as a means (an end) *and* they view themselves as interdependent (independent), they would be more motivated to save since the two views would lead them to have the same motivational orientations in saving. The current study tests this proposed interaction effects on motivations for saving.

Method

Participants. Two hundred and twenty one undergraduates from a large U.S. university (50.2 % male, 73.7 % Caucasian) participated in this study in a controlled laboratory setting for partial course credits.

Design and Procedure. I used the money-view manipulation from Study 1A and the self-view manipulation from Study 2. The order of the two manipulations was

randomized. After the self-view manipulation, I asked participants the same manipulation check questions as used in Study 2, that is, three items on the independent self-view (α = .83) and three items on the interdependent self-view (α = .77). To check whether or not the money-view manipulation was successful, participants were asked to indicate whether their focus during the writing task (1: *the use of money*, 7: *the accumulation of money*). This question allowed me to check if individuals' money-views focused their attention on the use of money or the accumulation of money.

Prior literature on saving behavior often used the amount of money allocated to savings with a limited budget in a hypothetical situation as a measure of individuals' motivations for saving (Garbinsky et al. 2014; Ü lkümen and Cheema 2011). Following this stream of research, I asked participants to imagine receiving a windfall of $100 and $1,000 (in this order), and to make a decision on how much money to save. The amount of money allocated to savings would represent the extent to which participants are motivated to pursue a saving goal. Then, I collected demographic information (i.e., gender, ethnicity, and family income) to include as covariates.

Results and Discussion

Manipulation Check. First, I ran a two-way ANOVA on the money-view manipulation check with money- and self-view as factors and demographics as covariates. The two-way interaction was not significant (F (1, 214) = 1.78, p = .68), but the main effect of the money-view was significant ($p < .01$). That is, participants who were asked to write an essay on the money-as-means (vs. an end) quote focused more on the use of money (vs. the accumulation of money) (M_{Means} = 1.95, SD = 1.54 vs. M_{End} =

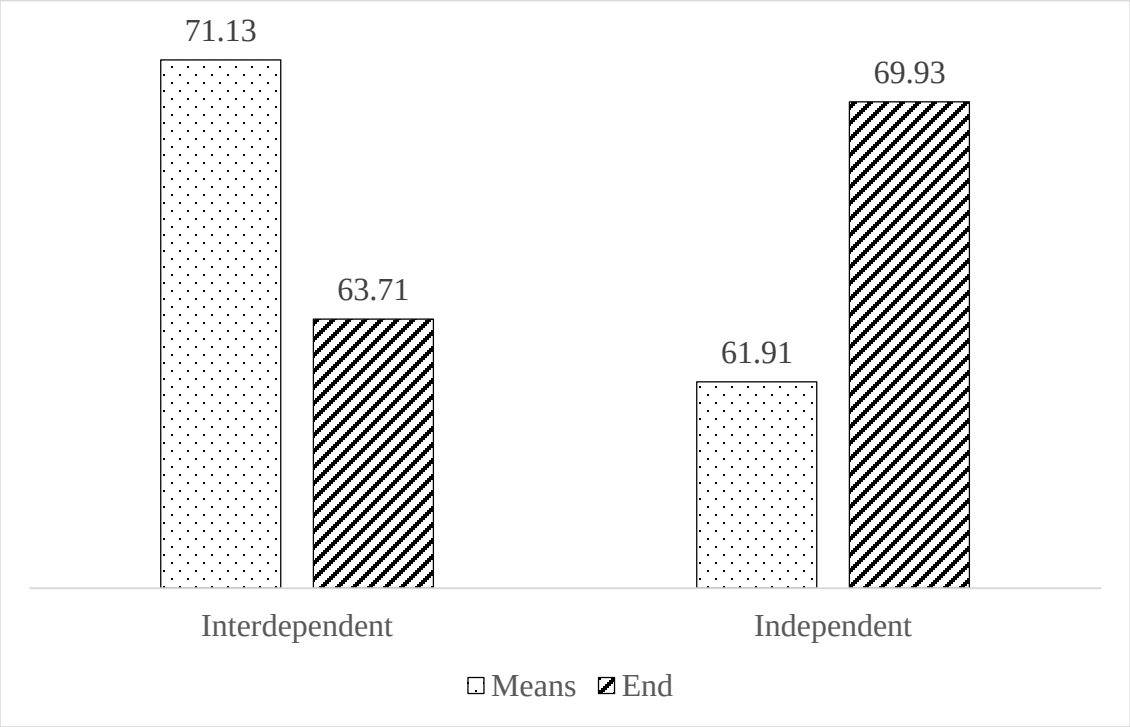
5.12, SD = 1.97; F (1, 214) = 165.85, p < .01). I then ran a similar two-way ANOVA on the measure of self-view (i.e., interdependence minus independence). Results showed an insignificant two-way interaction effect (F (1, 214) = 2.61, p =.11), but a significant main effect of self-view ($M_{Independent}$ = -. 65, SD = 2.12 vs. $M_{Interdependent}$ = 1.47, SD = 1.91; F (1, 214) = 59.03, p < .01). Hence, both money- and self-view manipulations were successful.

Money Allocated to Savings. I first ran a two-way repeated measure ANOVA on the percentage of money allocated to savings with money- and self-views as between-subjects factors, and demographics as covariates. There was no significant effect of the amount of windfall (e.g., $100 or $1,000) on the percentage of money allocated to savings (p =.83). The interaction effect between participants' money- and self-views was significant (F (1, 214) = 7.47, p <.01). No main effects or covariates were significant (all ps > .10). In light of a lack of significant effects involving the amount of windfall ($100 vs. $1,000), I averaged the percentages of savings across the two magnitudes, and ran a two-way ANOVA on the averaged savings percentage.

Results supported my prediction, as described in Figure 6. That is, participants primed with the independent self-view decided to save more money when they were in the money-as-end condition than they were in the money-as-means condition (M_{Means} = 61.91%, SD = 22.93% vs. M_{End} = 69.93%, SD = 18.93%; p = .06). In contrast, participants who were primed with the interdependent self-view decided to save more money when they were in the money-as-means (vs. end) condition (M_{Means} = 71.13%, SD = 19.84% vs. M_{End} = 63.71%, SD = 23.07%; p = .05). These results supported my

prediction that participants were more motivated to save when their money-view and their self-view would support the same (vs. different) saving strategies (**H3**).

Figure 6: Averaged Money Allocated to Savings (%) in Study 3A



In sum, I found the supporting evidence for the interaction effect between money- and self-views on saving. When participants' money- and self-view lead them to have the same motivational orientation in saving, they are more motivated to save. I next conducted Study 3B to replicate these results by using a different money-view manipulation from Study 1B and non-student participants who may be more experienced with saving.

Study 3B

Method

Participants. I recruited a total of 217 U.S. adult participants from the Amazon's Mturk (48.4% male, 82.5% Caucasian, average age of 37.9 years). All participants were working individuals, and compensated with $.50 for the completion of the study.

Design and Procedure. In this study, I used the money-view manipulation from Study 1B and the self-view manipulation from Study 2. The order of the two manipulations was randomized. After the money-view manipulation, participants were asked to indicate the extent to which they agreed with two statements: "Money is a just means of exchange" and "Money means more than a means of exchange", on 9-point scales (1: *Strongly Disagree*, 9: *Strongly Agree*).To check the self-view manipulation, I asked participants the same questions as in Study 2, including three items on the independent self-view (α = .87) and three items on the interdependent self-view (α = .82). Then to measure the extent to which participants were motivated to save, participants were asked to allocate a hypothetical monthly income ($3,500) over two big categories – i.e., spending and savings. Then I measured participants' temporal focus, including the present focus (α = .89) and future focus (α = .89). Finally, some demographic information was collected (e.g., gender, age, ethnicity, job, and family income).

Results and Discussion

Manipulation Checks. To test whether the money-view manipulation was successfully, I ran the two-way ANOVA on participants' relative agreement to money-

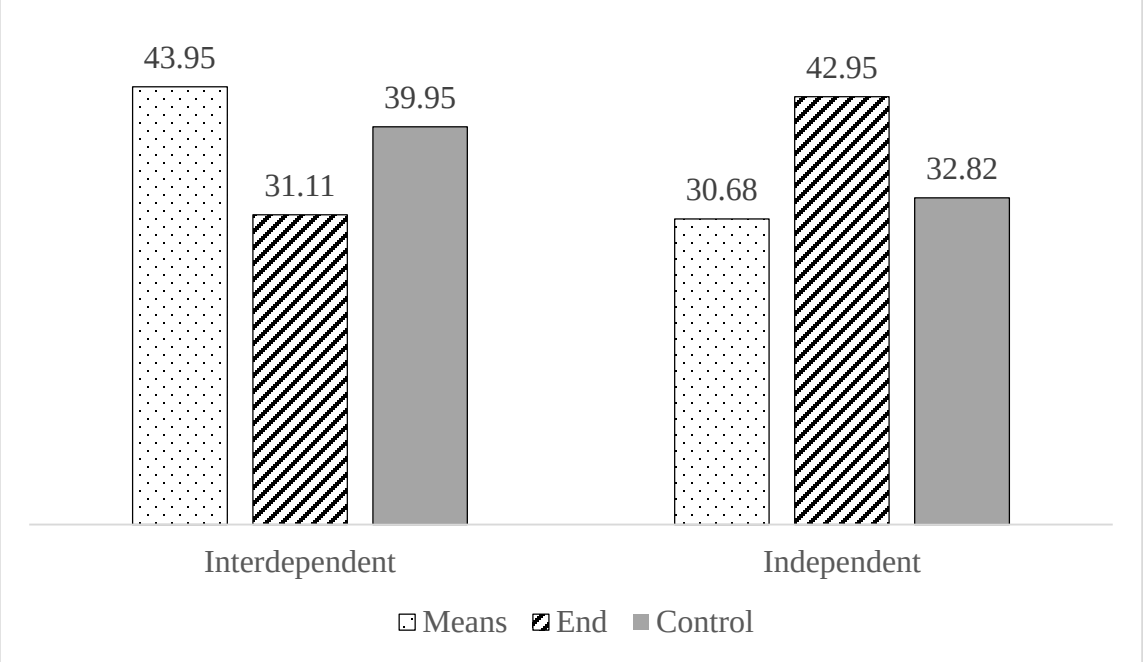
as-mean (vs. end) statements (i.e., means minus end), with the money- and self-views as factors and demographics as covariates. Results showed the two-way interaction was not significant (F (2, 205) = 1.94, p = .15), but the main effect of the money-view was significant ($p < .05$). No covariates were significant (all ps >.10). Specifically, results showed a significant difference in the extent to which participants agreed with the money-as-means (vs. end) statements (M_{Means} = 1.11, SD = 4.35 vs. M_{End} = -.75, SD = 4.38 vs. $M_{Control}$ =.76, SD = 3.67; F (2, 205) = 3.48, $p < .05$). Moreover, the difference between the money-as-means and the control conditions was not significant (p = .52), whereas the one between the money-as-means and the money-as-end conditions was significant ($p < .05$).

To check the self-view manipulation, I ran a similar two-way ANOVA on the relative measure of one's self-view (i.e., interdependence minus independence). Results showed that there was no two-way interaction effect (F (2,205) = .80, p =.45), and the main effect of the self-view was significant in the intended direction ($M_{Independent}$ = -1.09, SD = 2.07 vs. $M_{Interdependent}$ = 1.37, SD = 2.30; F (1, 205) = 68.83, $p < .001$). Age (p = .09) and ethnicity ($p < .05$) were significant covariates. Hence, both money- and self-view manipulations were successful.

Money Allocated to Savings. Similar to what I did in Study 3A, I first calculated the percentage of money allocated to savings with a budget of $3,500. A two-way ANOVA on the percentage of money allocated to savings shows a significant interaction effect between money-views and self-views (F (2, 205) = 7.66, $p < .01$). Again, no

significant main effects were observed, and age was the only significant covariate ($p <$ .01). Results are described in Figure 7.

Figure 7: Averaged Money Allocated to Savings (%) in Study 3B



Planned contrasts revealed that independent participants allocated more money to savings when they were in the money-as-end condition (M = 42.95%, SD = 21.85%), as compared to the money-as-means condition (M = 30.68%, SD = 13.19%; p <.05), or the control condition (M = 32.82%, SD = 16.11%; p <.05). In contrast, interdependent participants allocated more money to savings when they were in the money-as-means condition (M =43.95%, SD = 21.10%) as compared to the money-as-end condition (M = 31.11%, SD = 15.76%; p <.01), but they allocated similar amounts of money to savings

as compared to those in the control condition (M = 39.95%, SD = 20.01%; p = .31). These results replicate those in study 3A and provide converging evidence for **H3**, and again suggest that the money-as-means view would be the default money view.

Using the different money-view manipulation with the more financially experienced adult participants, this study provides additional supporting evidence that money- and self-view would jointly influence individuals' saving behavior. In the following study, I explore the mechanism underlying this effect.

Study 4

In studies 3A and 3B, I find that, when money- and self-view lead individuals to prefer the same (vs. different) saving strategies, they save more. Based on these findings, this study aims to test whether such an increases in saving is driven by enhanced engagement in saving, as **H4** predicts. That is, when individuals' money- and self-views lead them to prefer the same saving strategies, they would experience a feeling of fit, which would increase their engagement in saving, thereby motivating them to save more.

Method

Participants. One hundred and twenty five undergraduates from a large U.S. university (45.6 % male, 77.6 % Caucasian) participated in this study in a controlled laboratory setting for partial course credits.

Design and Procedures. The study design and procedures are similar to Study 3B. To check whether the money-view manipulation was successful, participants were asked to indicate their relative importance perceptions between spending and saving

activities ("To me, spending money is more important than saving money.") on a 9-point scale (1: *Strongly Disagree,* 9: *Strongly Agree*). To check the self-view manipulation, I asked participants the same manipulation check items used in Study 2, including three items on the independent self-view ($\alpha = .79$) and three items on the interdependent self-view ($\alpha = .79$). The order of the money- and self-view manipulations was randomized. Then, to measure the extent to which participants were motivated to save, participants were asked to allocate a hypothetical monthly income ($3,500) over two big categories – i.e., spending and savings.

Prior literature argues that individuals' engagement in goal pursuit is a function of their experience of feeling right (Camacho, Higgins, and Luger 2003; Lee et al. 2010; Malaviya and Sternthal 2009; Wadhwa and Zhang 2015), motivation (Idson et al. 2004), and goal difficulty (Higgins 2006; (Hollenbeck and Klein 1987; Klein et al. 1999; Klein et al. 2001; Locke and Latham 1990; Locke et al. 1981). That is, individuals' engagement would be increased when they experience a fit in goal pursuit, when they are motivated to pursue a goal, or when they try to achieve a more difficult goal. Following the prior literature (Lee et al. 2010; Wadhwa and Zhang 2015) I measured fit in the preferred strategies and motivation in pursuing the saving goal by asking participants to indicate their agreement to the following three statements, on 9-point scales (1: *Strongly Disagree*, 9: *Strongly Agree*); "I feel that I set a right saving goal," "I am confident that I can achieve this saving goal," and "I feel motivated to achieve this saving goal." To measure perceived goal difficulty, I asked participants to indicate their agreement to the following question, "This savings goal is easy to achieve," on a 9-point

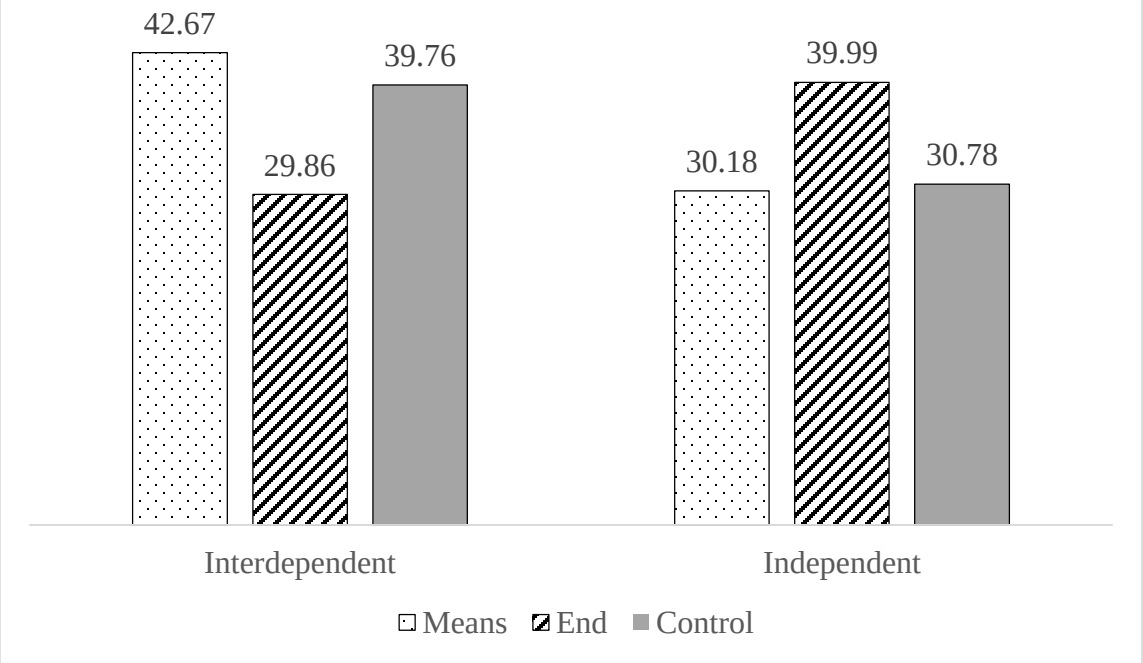
scale (1: *Strongly Disagree*, 9: *Strongly Agree*). Next, I measured participants' temporal focus, including the present focus (α = .83) and the future focus (α = .90). Finally, some demographic information was collected (e.g., gender, age, ethnicity, job, and family income).

Results and Discussion

Manipulation Checks. To check the money-view manipulation, I ran a two-way ANOVA on perceived importance of saving (vs. spending) with money- and self-views as factors, and one's RTF as well as demographics as covariates. Results showed the two-way interaction was not significant (F (2, 115) = .39, p = .68), but the main effect of the money-view was significant (p =.05). Gender was the only significant covariate (p < .05). There were differences in the extent to which participants perceived spending (vs. savings) as more important (M_{Means} = 4.17, SD = 2.30 vs. M_{End} = 3.05, SD = 1.52 vs. $M_{Control}$ = 3.86, SD = 2.25; F (2, 115) = 3.07, p = .05). The difference between the money-as-means and the control conditions was not significant (p = .52), whereas the one between the money-as-means and the money-as-end conditions was significant (p < .05). Then, I ran a similar two-way ANOVA on self-view (i.e., interdependence minus independence). Results showed that there was no two-way interaction effect (F (2,115) = .92, p =.40), and the main effect of the self-view was significant in the intended direction ($M_{Independent}$ = -.52, SD = 2.19 vs. $M_{Interdependent}$ = 1.64, SD = 1.93; F (1, 115) = 31.41, p < .001). No covariates were significant (all ps > .10). Hence, both money- and self-view manipulations were successful.

Money Allocated to Savings. Similar to what I did in Study 3A and 3B, I first calculated the percentage of money allocated to savings with a budget of $3,500. A two-way ANOVA on the percentage of money allocated to savings shows a significant interaction effect between one's money- and self-views (F (2, 115) = 6.17, p < .01). Again, no significant main effects were observed, and ethnicity was marginally significant (p = .07).

Figure 8: Averaged Money Allocated to Savings (%) in Study 4



Planned contrasts revealed that independent participants saved more when they were in the money-as-end condition (M = 39.99%, SD = 20.00%), as compared to the money-as-means condition (M = 30.18%, SD = 14.36%; p <.05), or the control condition

(M = 30.78%, SD = 13.12%; p <.05). In contrast, interdependent participants saved more when they were in the money-as-means condition (M =42.67%, SD = 13.33%) as compared to the money-as-end condition (M = 29.86%, SD = 18.92%; p <.01), but they saved similar amounts of money as compared to those in the control condition (M = 39.76%, SD = 18.14%; p = .40). These results, as described in Figure 8, provide converging evidence for **H3** and again suggest that money-as-means would be a default view.

Mediation Analysis. Recall I predict that, when individuals' money- and self-views lead them to prefer the same (vs. different) saving strategies, they would experience an increased sense of engagement (**H4**), and subsequently become motivated to save more (**H3**).

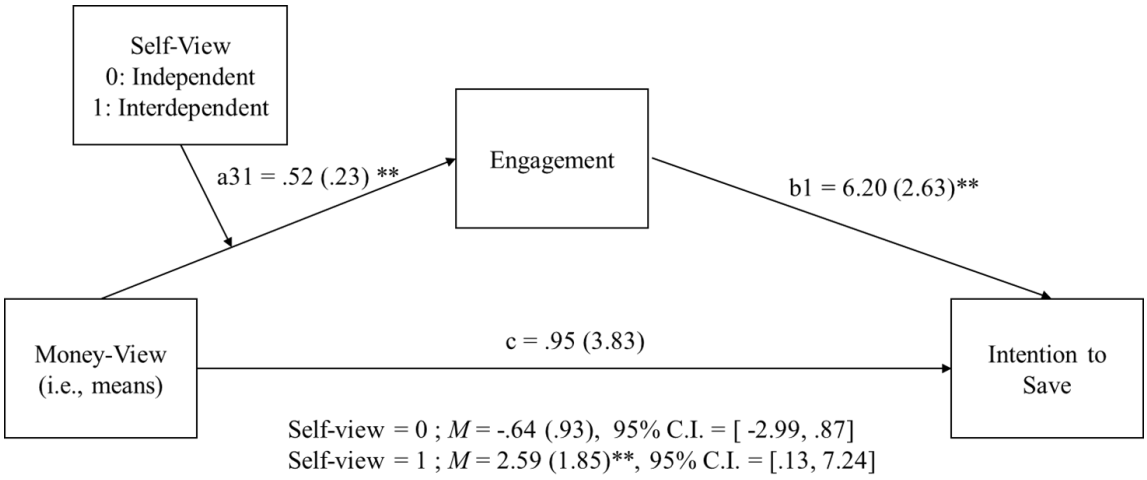
To test this proposed mediation effect of the engagement on saving behavior, I first averaged the three items measuring participants' fit and motivation (α = .81). Then, I divided this measure by perceived easiness of achieving the savings goal. This index captured participants' level of engagement in saving which resulted from their experienced fit in the preferred saving strategies, their motivation to pursue the saving goal, as well as the perceived difficulty of achieving the saving goal. Since there were three money-views (i.e., means vs. end vs. control), I used the dummy coding approach to conduct a mediation analysis (Hayes and Preacher 2014). Specifically, D1 is the dummy variable for the money-as-means condition; D2 for the money-as-end condition; and the control group functions as the reference group and received a code of 0 on both D1 and D2.

To test the predicted mediation effect of participants' engagement on their motivation to save, I ran the PROCESS macro for SPSS with the dummy coding approach (Hayes 2013; Hayes and Preacher 2014). The model used (Model 7) estimated the indirect effect of money-view (X) on the amount intended to be saved (%) (Y) through engagement in achieving the savings goal (M), moderated by self-view (W). This model generates bias corrected 95% bootstrap confidence intervals for the indirect effects using 5,000 bootstrap samples. Moreover, since I used the dummy coding approach, when either D1 or D2 was used as an independent variable in this mediation analysis, the other dummy variable was included as a control (Hayes and Preacher 2014).

Results show that, when participants were primed to view money as a means (i.e., D1), the conditional indirect effect was significant in the interdependent self-view condition (M = 2.59, 95% C.I. = [.13, 7.24]), but not in the independent self-view condition (M = -.64, 95% C.I. = [-2.99, .87]). The direct effect was not significant (c = .95, p = .80). In contrast, when participants were primed to view money as an end (i.e., D2), the conditional indirect effect was significant in the independent self-view condition (M = 2.93, 95% C.I. = [.32, 7.14]), but not in the interdependent self-view condition (M = -.34, 95% C.I. = [-3.12, 1.66]). Again, the direct effect was not significant (c =-.95, p = .80).

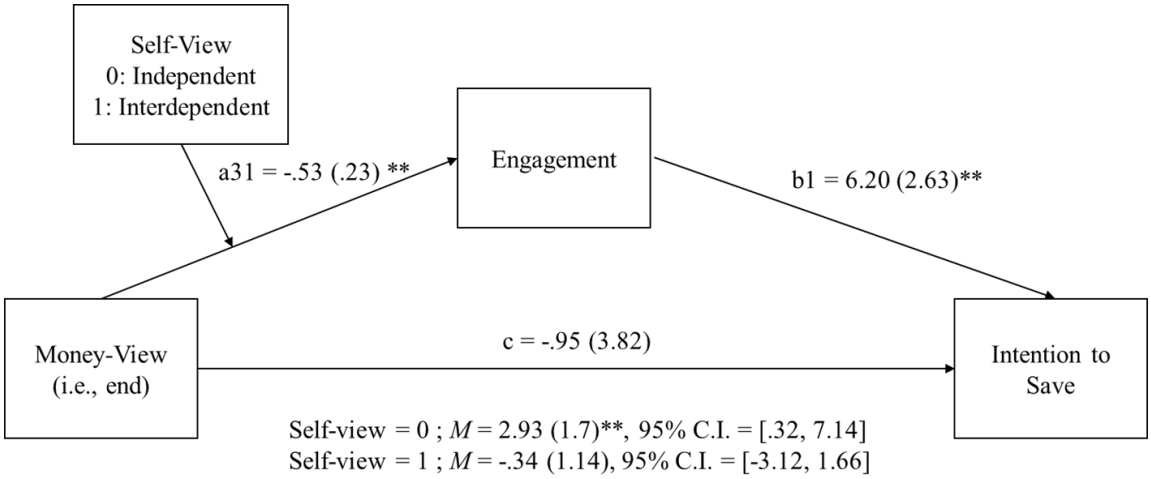
Figure 9: Mediation Analysis Results in Study 4

A. Money-as-Means Condition



**: $p < .05$

B. Money-as-End Condition



**: $p < .05$

These mediation analysis results support my prediction that, when individuals' money- and self-views lead them to the same saving strategies, their engagement level increases, which motivates people to save more. These results provide empirical support to **H4**. The mediation results are depicted in Figure 9.

Study 5

In the previous studies, I tested the proposed interaction effect between individuals' money- and self-views on their motivation to save with an experimental approach. To further test my prediction with individuals' real saving behavior, I ran this final study.

Method

Participants. A total of 174 U.S. adult participants from the Amazon's Mturk (48.3% male, 74.7% Caucasian, average age of 36.4 years). Participants were compensated with $.30 for the completion of the study.

Design and Procedures. Participants were asked to report their chronic money-views, self-views, and actual savings rates. To measure chronic money-views, participants were asked to indicate their agreement with 4 items for the money-as-means view (e.g., "Money is worth what it will help you to buy things," "In most situations, I focus on how much I spend," "I care my expenditure all the time," and "To me, how to spend money is important.") and 4 items for the money-as-end view (e.g., "Money means more than a means of exchange," "In most situations, I focus on how much I save," "I care my savings all the time," and "To me, how to save money is important."), all on 9- point scales (1: *Strongly Disagree,* 9: *Strongly Agree*). To measure chronic self-

views, participants were asked to indicate their agreement with 12 items for the independent view and 12 items for the interdependent view (Singelis 1994), all on 9-point scales (1: *Strongly Disagree*, 9: *Strongly Agree*). Participants were also asked to report their monthly savings rates (e.g., the amount of money saved as a percentage of their monthly income). The order of these five measures (e.g., two money-views, two self-views, and savings rates) was randomized, and the five measures were separated from each other by four filler tasks. Next, I measured participants' temporal focus, including the present focus ($\alpha = .82$) and the future focus ($\alpha = .89$). Finally, some demographic information was collected (e.g., gender, age, ethnicity, job, and family income). The descriptive statistics of and correlations among the measures are summarized in Table 4.

Results and Discussion

Money-View and Self-View. I calculated participants' relative money-view and self-view in the same motivational orientation direction (i.e., the relative tendency to focus on minimizing losses), by subtracting participants' independent self-view ($\alpha = .77$) and money-as-end view ($\alpha = .75$) from their interdependent self-view ($\alpha = .81$) and money-as-means view ($\alpha = .62$), respectively. Participants' relative money- and self-views were not significantly correlated with each other ($r = -.04$, $p = .61$).

Table 4: Measures' Means, Standard Deviations, and Intercorrelations in Study 5

	Mean	SD	1	2	3	4	5	6	7
1. Savings (%)	16.94	15.90	--						
2. Money-as-means	6.06	1.18	.06	--					
3. Money-as-end	6.43	1.40	.21**	.33***	--				
4. Interdependent	4.57	.89	.06	.02	.10	--			
5. Independent	4.99	.83	.04	.29***	.20**	-.04	--		
6. Present-focus	6.36	1.44	-.02	.15	.01	.09	.26**	--	
7. Future-focus	6.90	1.43	.06	.24**	.24**	.24**	.26**	-.02	--

***: $p < .001$

** : $p < .0$

Savings Rates. Participants' average savings rate was 16.9% of their monthly disposable income, and 9.8% of participants reported that they saved none. Participants with positive scores on both measures would be those with money-as-means view and interdependent self-view, and would save more; by the same logic, and those with negative scores on both measures would be those with money-as-end view and independent self-view, and would also save more. Therefore, **H3** would be supported if I obtained a positive interaction effect between the two measures.

Table 5: OLS Results in Study 5

	Unstandardized Coefficients	
	B	S.E.
(Constant)	28.19***	5.89
Gender	-5.50*	2.32
Age	-.32**	.10
Ethnicity	.10	1.04
Job	.38	.84
Income	2.40**	.75
RTF	-.05	.56
Relative Money-View	-.34	.98
Relative Self-View	-.30	.93
Money-View * Self-View	1.57*	.78

***: $p < .001$
** : $p < .01$
* : $p < .05$

I then estimated an ordinary least squares regression model ($R^2 = .18$), with participants' reported monthly savings rates as the dependent variable, their relative

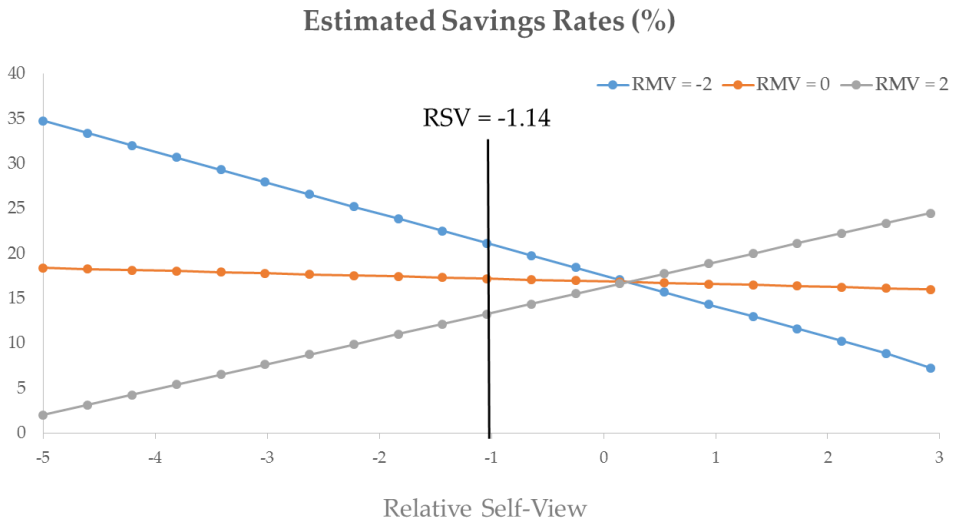
money-view, self-view, and the interaction term as the independent variables.[2] Participants' demographics as well as their RTF were included as covariates. The OLS result is summarized in Table 5. The analysis showed a significant interaction effect of participants' money- and self-views on their reported amount of savings rates (B = 1.57, S.E. = .78; t (173) = 2.00, $p < .05$). The effect of the relative money-view (B = -.34, S.E. = .98; t (173) = -.35, $p = .73$) and the effect of the relative self-view (B = -.30, S.E. = .93; t (173) = -.32, $p = .75$) were not significant. These results suggest that participants tend to save more when their money- and self-views lead them to prefer the same motivational orientation in saving (supporting **H3**). Participants' gender ($p < .05$), age ($p < .01$), and family income ($p < .01$) were significant covariates.

To decompose the interaction, I used the Johnson–Neyman technique to identify the range of the self-view for which the simple effect of self-view was significant. This analysis revealed that there was a significant positive interaction effect only for participants whose relative self-view was less than -1.14 (B_{JN} = -2.12, S.E. = 1.07, p = .05). This implies that the proposed interaction effect is mainly driven by those who hold a relatively more independent self-view. This is not surprising given that participants in this study hold a relatively more independent self-view on average (M_{rsv} = -.43, SD = 1.24; t (173) = - 4.48, $p < .001$). The result of the J-N technique is depicted in Figure 10. In sum, the positive interaction effect between individuals' money- and self-views on their real saving behavior provides supporting evidence for **H3**.

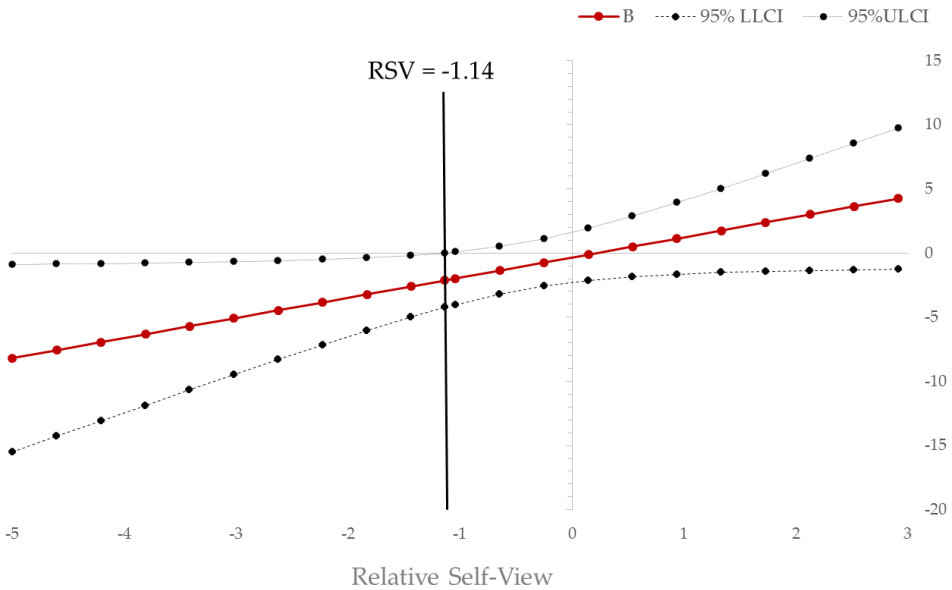
[2] All VIFs are less than 4. Therefore, multicollinearity is not a serious concern.

Figure 10: Correspondence between the Johnson-Neyman Point and the Confidence Bands around the Simple Effect of Z in Study 5

A. Regression Lines with Johnson–Neyman Point



B. Estimated Simple Effect of Z with Confidence Bands



General Discussion

Researchers and professionals have tried to understand individuals' saving behavior as it is one of important issues for consumer welfare (Kotlikoff and Summers 1981; Thaler and Benartzi 2004; Ü lkümen and Cheema 2011). The problem associated with under-saving is big. For example, recent research shows that poverty can harm one's cognitive function, and the poor could be caught in a vicious circle (Mani et al. 2013). However, the under-save tendency seems prevalent, and not easily changed even after the nation went through the recent financial crisis (Kramer 2013). A recent survey further shows how little Americans save; for example, 42 % of Americans live paycheck-to-paycheck, and almost two-thirds of us do not have sufficient savings to cover three-months of unanticipated financial hardship (FINRA 2011). Though many researchers tried to find ways to promote one's saving behavior, little research has paid attention to how individuals pursue a saving goal from a motivational perspective.

In the current research, I suggest a new angle to understand saving behavior by examining the roles that money- and self-views play in explaining individuals' motivational orientations in saving.

Specifically, I propose that both money- and self-views affect the way individuals are motivated to save, through either minimizing losses or maximizing gains in their financial assets. Moreover, based on these predictions, I further propose that individuals can be more motivated to save when they have an increased engagement due to a feeling of fit in their preferred saving strategies evoked by their money- and self-views.

Contributions and Implications

This research contributes to the prior literature on saving behavior and the psychology of money. First, the present research is the first to examine the way individuals perceive money as a behavioral incentive (i.e., money-view) would influence their saving behavior. Prior literature suggests a possible link among money perceptions, attentional focus, and motivational orientations in money-related situations, but such a relationship has not been examined in the context of saving (Furnham 1984; Furnham and Argyle 1998; Lea and Webley 2006; McClelland 1967; Tang 1992; Vohs et al. 2006; Yamauchi and Templer 1982). In doing so, prior literature has largely overlooked the fact that money is an indispensable part of individuals' saving behavior. By extending prior findings on the psychology of money, this research identifies individuals' money-views (e.g., either as a means or as an end) as possible drivers of their attentional focus and motivational orientations in saving (e.g., either minimization of losses or maximization of gains). Hence, this research adds to the research on the psychology of money by extending it to the context of individuals' saving behavior.

The effects of money-views on individuals' motivational orientations in saving are independent of individuals' regulatory foci (Higgins 1997). Regulatory focus theory (Higgins 1997) posits that individuals have two basic motivational orientations when they strive for a goal, depending on whether they view their goals as either ideals/inspirations (i.e., promotion focus) or duties/responsibilities (i.e., prevention focus). Unlike the predictions of regulatory focus theory, I argue and show that individuals tend to have different motivational orientations in saving depending on

whether they focus on either the use of money or the accumulation of money, rather than how they view their saving goal (which is the central construct in the regulatory focus theory). To verify this argument, I ran a simple survey (N = 329) at the Amazon's Mturk to examine the relationship among individuals' chronic regulatory focus, self-views, and money-views. Participants were asked to report a) their chronic regulatory focus (Haws, Dholakia, and Bearden (2010), b) their chronic self-views (Singelis 1994), and c) their chronic money-views, which were measured by the level of agreement to money-as-means statements (e.g., "Money is a just means of exchange," "In most situations, I focus on how money is used") as well as money-as-end statements (e.g., "Money means more than a means of exchange," "In most situations, I focus on money itself"). The two items for each money-view were averaged. After calculating the relative regulatory focus, relative self-view, and relative money-view in the same motivational orientation direction (e.g., relative tendency to focus on minimizing losses), I correlated these three measures. Results showed that self-view was significantly correlated with regulatory focus (r =.27, p <.01). However, self-view was not correlated with money-view (r =.08, p >.10), and regulatory focus was not correlated with money-view (r =-.10, p >.10). These results are consistent with the prior findings showing that self-view is closely related to regulatory focus. That is, interdependents (independents) are more likely to be prevention (promotion) focused (Aaker and Lee 2001; Hamilton and Biehal 2005; Lee et al. 2000; Zhou and Pham 2004). More importantly, the results showed that individuals' money-view was not correlated with their regulatory focus nor with their self-view. This result supports that the effect of money-views on individuals' motivational orientation in

saving would not be explained by regulatory focus theory. In this sense, this research contributes to expanding our knowledge on consumer saving behavior by suggesting a new way to examine individuals' motivation for saving.

Second, this research finds that individuals tend to take different approaches in saving depending on how they perceive money and how they perceive themselves. Prior literature has mostly focused on what factors would influence savings rates (Carroll 1998; Carroll et al. 1994; Chen 2013; Lynch et al. 2010; Ü lkümen and Cheema 2011). In addition to identifying such factors, this research is also interested in the mechanism underlying the effects of these factors on saving behavior. In other words, the current findings highlight the importance of motivational orientation in saving behavior which is not directly examined in the prior literature. By extending previous findings on the relationship between money and social perceptions, I argue that individuals' motivations for saving could be further enhanced when they experience a fit in their motivational orientation dictated by their money- and self-views. While most literature focuses on regulatory fit (Higgins 2000, 2006; Idson et al. 2004; Lee et al. 2010), more recent stream of research suggests that any *matched* experiences can lead individuals to experience fit, thereby intensifying their reactions (Wadhwa and Zhang 2015). By joining this recent stream of research, this research provides empirical evidence for the positive effects of the fit in consumer saving behavior.

Third, the current findings provide a plausible explanation for why prior literature has failed to find consistent results on the effects of culture on saving behavior (Carroll et al. 1994; Chen 2013). Culture is closely related to one's chronic self-view

(Cross et al. 2010; Markus and Kitayama 1991; Oyserman, Coon, and Kemmelmeier 2002). The current findings suggest that self-view explains the way in which individuals pursues a saving goal (e.g., by either minimization of losses or maximization of gains), not the savings rates per se since two types of saving strategies could lead to similar amounts of savings. In fact, more recent research finds that individuals from different cultures tend to choose different ways to pursue a saving goal; that is, individuals from different cultures exhibit different preferences for financial products depending on whether those products are communicated through promotion or prevention features (Petersen, Kushwaha, and Kumar 2015). Similar to this finding, the current research implies that individuals' cultural background would predict the choice of the preferred saving strategies, not their savings rates. Furthermore, the effects of culture on savings rates vary depending on how the culture interacts with the way in which individuals view money. Hence, a consideration of the effects of the money-views would facilitate a better understanding of cultural differences in savings rates.

Practically, the results of this research can assist individuals to choose appropriate saving strategies by encouraging them to factor in their money-view and/or self-view. For example, independent individuals may not be encouraged to pursue savings when they are directed to focus on managing their spending activities such as cutting expenses or tracking down their expenses. Instead, those individuals may be more successful in saving when they focus on increasing financial assets by investing their money or seeking extra incomes. Hence, more effective financial advice can be furnished by considering individuals' money-view and self-view.

Limitations and Future Research

Though this research offers new insights into the psychology of money, the main focus is on saving behavior. As such, the effects of individuals' money-views on their spending behavior are not discussed. I suggest that money-views may influence individuals' attentional focus on either the use of money or the accumulation of money. Hence, it would be possible that those who view money as a means (vs. an end) are more sensitive to prices since price represents the exchange value of money for goods/services (Monroe and Lee 1999). Accordingly, individuals who view money as a means (vs. an end) could be more sensitive to changes in prices such as promotional deals. Hence, future research can address how individuals' money-views would influence their spending behavior.

In addition, the money-as-means view would be closely related to materialism and consumption-based orientations (Ger and Belk 1996, p. 55). Materialism refers to individuals' tendency to place great importance on possessions (Belk 1985; Ger and Belk 1996). Contradictory to the common assumption, Ger and Belk (1996) found that materialism was not more severe in affluent (vs. poor) countries/cultures. By investigating the possible roles played by individuals' money-views, researchers could suggest a new way to better understand materialism.

Throughout studies, I found that individuals seem to focus on the exchange value of money (i.e., money-as-means) as the default view (in studies 1B, 3B, and 4), and this is consistent with existing arguments that money was invented as a medium for exchange (Lea and Webley 2006). The prevalent view of money as means to possessions

and experiences could be one of reasons for the under-save tendency in the U.S. And, the mismatch between the independent self-view and money-as means view could exacerbate this tendency. As such, if individuals in a predominately individualistic culture are encouraged to have the money-as-end view, their saving behavior could be improved. Future research should definitely explore this possibility.

While the money-as-means view is expected, it remains unclear why some individuals have the money-as-end view. One possibility is that some individuals may lack experiences exchanging money for goods/services. As such, individuals who are financially deprived would be more likely to have the money-as-end view. To explore this possibility, I ran a survey at Mturk (N = 120) by measuring participants' chronic money-view and subjective feeling of financial deprivation (Sharma and Alter 2012). I first calculated participants' relative money-view in the direction toward the money-as-end view. Then, I correlated participants' relative money-view and their feeling of financial deprivation. Results showed that participants who view money as an end were more likely to feel financially deprived (r =.19, p < .05). This result implies that the financial deprivation may be one of drivers of the money-as-end view. Future research should further explore these possibilities to explore the origins of different money view.

Finally, individuals' self- and money-views are complex and rich constructs that have attracted a lot of academic attention but deserve more systematic investigations in the realm of consumer saving behaviors. For practical purposes, I followed the prior literature and relied on the most popular dichotomies for both views. Future research

should further explore the important roles of self- and money-views in saving using both quantitative and qualitative techniques.

CHAPTER IV

SUMMARY

Researchers, policy makers, and consumers have been interested in consumer saving behavior since it helps to maintain consumer welfare and ultimately economic stability (Bertrand et al. 2006; Thaler and Benartzi 2004; Ü lkümen and Cheema 2011). The two essays in my dissertation investigate how individuals' saving behavior can be enhanced. In the first essay, I examined how individuals can benefit from budget-setting to maintain their commitment to saving. Specifically, I suggest that individuals can set *committable* budgets when they consider the same number of budget categories for spending and savings with a salient saving goal. In the second essay, I explored how individuals perceive the meaning of money as related to their saving behavior. Specifically, the second essay suggests that individuals' money perceptions and social perceptions jointly influence their motivation for saving. In sum, this dissertation provides important and meaningful insights into consumer saving behavior.

My dissertation makes both theoretical and practical contributions. The first essay provides new insights into the underlying mechanism in budget-setting. Though the common wisdom suggests that budget-setting would be the first step in achieving a saving goal, little is known about how individuals can set budgets to which they can commit. The results show that, when individuals estimate budgets, their estimation behavior is sensitive to how many budget categories they would consider. This tendency is consistent with previous findings in planning literature – namely, individuals tend to

make different predictions depending on how a given situation/task is described (Buehler et al. 1994). Based on this finding, I further suggest that the number of savings goals should be considered along with the number of spending goals to maintain individuals' commitment to their budgets. Also, this research contributes to planning literature by identifying situations in which planning benefits goal pursuit. Practically speaking, my findings have significant implications for practitioners by suggesting effective ways to educate individuals to plan their budgets for savings.

The second essay contributes to expanding the existing knowledge on saving behavior as well as on the psychology of money. This research is the first to investigate how money perceptions may influence saving behavior. I suggest that money perceptions influence the way individuals pursue their saving goals, i.e., by either minimizing financial losses or maximizing financial gains. Accordingly, this research sheds light on the important role that the psychology of money plays in understanding saving behavior. Moreover, this research supports the prior findings that money perceptions are closely related to social perceptions. By showing that individuals' money and social perceptions jointly influence their motivation for saving, the current research expands our understanding of personal finance management. Based on the current findings, policymakers as well as personal finance managers can design more effective savings programs by "priming" the appropriate ways of viewing money and/or self among consumers. Taken together, this dissertation can help individuals, academics, and practitioners better understand saving behavior, and suggests ways to encourage saving behavior.

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