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This article examines the effect of the number of goals on consumers' savings behavior. Drawing from research on implementation intention, the authors show that under certain conditions, presenting a single savings goal leads to greater savings intention and actual savings than presenting multiple savings goals. Multiple goals typically evoke trade-offs among competing goals and thus increase the likelihood that people will remain in a deliberative mind-set and defer actions. In contrast, the authors propose and demonstrate that a single goal evokes a stronger implementation intention, which in turn has a greater effect on behavior change. They also show that the advantage of a single goal over multiple goals on saving is attenuated when saving is easier to implement or when the multiple savings goals are integrated rather than competing among themselves. Theoretical and practical implications are discussed.

*Keywords:* saving, implementation intention, goals, goal number, mind-set

## The Fewer the Better: Number of Goals and Savings Behavior

Consider the following scenario: After reading about increasing concerns that household savings rates are declining (Organisation for Economic Co-operation and Development 2008) and that households need to be persuaded to save more, a hypothetical agency decides to launch a program to persuade people to save. Researchers in this agency familiarize themselves with the goal literature and learn that setting a goal motivates people and makes them strive harder to accomplish tasks (Gollwitzer 1990; Locke and Latham 1990) and meet targets (Shefrin and Thaler 1988). The literature also suggests that multiple goals lead to greater performance (Locke and Latham 1990) and that the greater the number of means to pursue a goal, the more likely a person is to pursue that goal (Kruglanski et al. 2002).

The researchers conduct their own independent study and discover, somewhat unsurprisingly, that there are many

good reasons to save. In particular, three of the most common goals for saving include children's education, health care needs, and having a nest egg for retirement. Armed with this information, as well as the insights gained from its survey of the literature, the agency decides to "encourage households to save so that they have enough money for their children's education, health care, and retirement." After all, three good goals for saving should be better than one (or no) goal.

In this research, we make the opposite prediction—namely, presenting a single savings goal leads to higher goal achievement than presenting multiple savings goals. Many consumers who plan to save or would like to save more are unable to do so (Thaler and Benartzi 2004). It is well known that good intentions are not always translated into actions and thus can easily lead to the failure of goal attainment (Baumeister 2002; Gollwitzer 1999). We propose that compared with multiple goals, which evoke considerations of the trade-offs among the goals and thus put people in a deliberative mind-set, a single goal facilitates goal-related behavior by putting people in an implemental mind-set. In a field study (Study 1), we show that encouraging workers to think of one savings goal results in a higher savings rate over a six-month period than encouraging them to think about several savings goals. Subsequently, in three laboratory experiments, we replicate this effect and demonstrate that this effect is driven by the implementation intention associated with a single goal by (1) conducting mediation analysis in Study 2 and (2) by directly manipulating implementation intention in Study 3. Furthermore,

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we show an attenuated effect of a single goal over multiple goals when the goal is easy to implement (Study 2) or when the multiple goals do not compete with one another and thus the goal trade-off is reduced (Study 4). We also address and rule out alternative explanations for our effects based on more vivid imagery of a single goal, diluted goal importance of multiple goals, or easier goal accomplishment for the single goal.

The rest of this article is divided into three sections. First, we review relevant literature on goal systems and the effects of goals on performance to develop our theoretical framework. Second, we describe the results of a field study and three laboratory experiments designed to test our framework. Third, we conclude with a general discussion, offer future research directions, and discuss implications for designing programs to enhance consumer welfare.

### CONCEPTUAL FRAMEWORK

Research in the area of mental accounting (Thaler 1999) sheds light on the processes that consumers might use to make spending and savings decisions. This paradigm shows that rather than optimizing their spending decisions over the long run and over their entire basket, consumers make decisions in the narrower context of specific product categories (Heath and Soll 1996; Soman 2001), called “mental accounts.” The central theme of this research is that the likelihood of spending and saving is different for monies that are categorized into different mental accounts. For example, money budgeted for entertainment will more likely be spent on entertainment than on shopping (Heath and Soll 1996), and money earmarked as savings will more likely be saved than money in a “spending account” (Thaler 1999). Recent research has shown that in many cases, mental accounts are derived as a function of consumers’ goals and that setting up these accounts can also help consumers achieve their savings goals (Soman and Ahn 2010).

Indeed, goals play an important role in different aspects of consumer life, such as risk-taking behavior (Atkinson 1957), academic project completion (Gollwitzer and Brandstätter 1997), and spending and savings behavior (Shefrin and Thaler 1988; Soman and Cheema 2004). Hull (1932) suggests that goals are reinforcers that influence learning efforts and behavior through conditioning. Other research has used an expectancy-value-based approach and indicated that anticipation of the goals leads people to strive to achieve them (Klein 1991; Lewin 1951). Goals also enhance motivation and performance because people derive value by making perceived progress toward the goal (Soman and Shi 2003). However, despite the positive effect of goals, research has shown that there is often a discrepancy between the goal intention and the actual implementation of the goal (Gollwitzer 1999). People fail to adopt positive behaviors to obtain their goals because of myopia, self-control problems, perceptual errors, or distributed decisions (Ainslie and Haslam 1992; Baumeister 2002; Elster 1979; Herrnstein and Prelec 1991; Schelling 1984). Visceral factors, such as hunger, thirst, or pain, can also exert a strong, “uncontrollable” effect on a person’s immediate spending behavior that cannot be foreseen from a temporal distance (Loewenstein 1996).

### *Translating Goals Into Actions*

What can be done to help people translate their goals into actions? Prior literature has suggested several strategies to motivate action, including precommitment (Thaler and Benartzi 2004), the use of decision points (Soman, Xu, and Cheema 2010) and partitions (Cheema and Soman 2008), side bets and contracts, and avoidance of the tempting stimulus (Hoch and Loewenstein 1991). Other strategies include turning attention away from the concrete qualities of immediate spending temptation and instead focusing on abstract qualities, making social comparisons, bundling the cost of giving into the temptation, anticipating regret and guilt, or practicing different types of mental simulation (Ainslie 1975; Hoch and Loewenstein 1991; Zhao, Hoeffler, and Zauberman 2007).

From a different perspective, researchers on implementation intention have studied different stages that people go through when making goal-related decisions (e.g., Gollwitzer 1999). This research proposes that goal pursuit is characterized by two separate stages: (1) an initial stage with a deliberative mind-set, in which people are uncertain about their goals and seek to define a desired outcome by considering the trade-offs among the goals, and (2) a subsequent stage with an implemental mind-set, in which people have already established the goals they wish to pursue and are considering when, where, and how to attain them. This stream of research demonstrates that forming implementation intentions increases the likelihood of behavioral enactment and leads to more successful goal attainment than merely forming a goal intention across different domains and tasks, such as writing a report about Christmas vacation (Gollwitzer and Brandstätter 1997) or performing medical checkups (Orbell, Hodgkins, and Sheeran 1997). As the underlying mechanism for these effects, implementation intention highlights the link between a critical cue and a goal-directed response, and the latter becomes automatically triggered in the presence of the critical cue (Gollwitzer 1999; Gollwitzer and Sheeran 2009). Subsequently, people become more committed to the goal and are more likely to engage in action-oriented behavior toward goal attainment (Dhar, Huber, and Khan 2007; Gollwitzer 1999).

### *Number of Goals and Implemental Mind-Set*

How does the number of goals relate to implementation intention and people’s savings behavior? Prior research on goals has studied the role of multiple goals in performance and reported mixed findings (Locke and Latham 1990). On the one hand, research shows that when people have simultaneous multiple goals, they can usually only exceed in one goal but not the other because of limitations in cognitive capacities (e.g., Erez, Gopher, and Arazi 1990). On the other hand, in most other situations, goals do not need to be pursued simultaneously, and they are often causally interrelated in a positive way so that actions taken to attain one goal help rather than hinder the attainment of other goals. As a result, multiple goals greatly increase performance (Ivancevich 1977; Locke and Latham 1990, 2002).

However, these prior studies showed the advantage of multiple goals primarily relative to the no-goal condition because the former was more specific and clear whereas no

goal was rather vague. With regard to the effect of multiple goals relative to a single goal, the level of specificity would be similar for both cases, and thus we believe that multiple goals might lose their advantage over a single goal because of the implementation intention evoked by the single goal. Research has shown that implemental mind-sets can be induced in different ways. Mind-sets can naturally change from deliberative to implemental as people finalize what goals they want to pursue and advance from one stage of the goal-attainment process to the next (Gollwitzer 1999). Alternatively, instructing people to think about the how (vs. the why) of attaining a goal can also result in a shift in mind-sets (Taylor and Gollwitzer 1995). In the consumption domain, studies have also shown that simply asking people to consider which of a number of alternative products they would prefer can activate an implemental mind-set, resulting in higher purchase likelihood of these focal products and even other unrelated products (Xu and Wyer 2007, 2008). In our work, we propose that presenting consumers with a single goal can also help evoke an implementation intention compared with multiple goals because multiple goals evoke trade-off consideration among goals, which retain people in a deliberative mind-set and hinder them from goal-related actions. In support of this prediction, prior research has also shown that enhanced trade-offs lead to action deference (e.g., Thompson, Hamilton, and Petrova 2009).

Consider two hypothetical people, Tom and Jerry, who were recently exposed to a seminar on why it is important to save. The contents of the seminar attended by both were identical, with one notable difference. Tom was told it was important to save because he needed to focus on several goals—the education of his children, health care emergencies, and having a stash for the proverbial rainy day. Conversely, the seminar that Jerry attended stressed only one goal: having enough money for his children's education. In linking the case of Tom and Jerry to the research on mind-sets, we believe that when people (like Tom) have several competing goals, they might still be in a deliberative mind-set. That is, they may be contemplating which of these goals are more important and by how much and thus are not readily able to translate the savings goals into action. In particular, because multiple goals compete for the limited monetary recourse (e.g., every dollar people save for their children's education is a dollar they cannot save for their retirement), thinking about this trade-off prevents people from moving into an implementation mind-set. However, when people (like Jerry) only have one goal, they no longer need to make goal trade-offs and are more likely to move onto the second stage of the goal pursuance—a position to think about implementing the goal. As a result, their commitment to the task at hand (i.e., saving) will be stronger and their savings intention will be higher. Formally, we hypothesize the following:

H<sub>1</sub>: A single savings goal leads to higher savings intention than multiple savings goals.

H<sub>2</sub>: The effect of number of goals on savings is mediated by the evoked implementation intention.

Prior research also suggests that implementation intention has its greatest benefits in complex and difficult situations (Gollwitzer 1999; Gollwitzer and Brandstätter 1997).

For example, Gollwitzer (1999) finds that implementation intention greatly enhanced project completion compared with goal intention for students who needed to complete difficult projects. However, when the projects were easy to implement and, thus, action initiation was easy, implementation intention did not produce any additional advantage. Accordingly, we expect that the advantage of a single savings goal over multiple savings goal on consumer saving will be the greatest in situations in which the savings plan is difficult but attenuated when the plan is easy to implement:

H<sub>3</sub>: Implementation difficulty of savings plans moderates the effect of a single savings goal over multiple savings goals on consumer savings.

A key assumption in our theorizing about the weaker effect of multiple goals on saving is that the competition and the trade-offs among different savings goals impede people from getting into an implementation mind-set. If the competition between goals and the resultant hindered implementation intention are true, we expect that the advantage of a single goal over multiple goals will be attenuated if the multiple goals are integrated rather than competing among themselves:

H<sub>4</sub>: The extent of goal competition moderates the effect of a single savings goal over multiple savings goals on consumer savings.

We next report the results of four studies conducted to test these hypotheses. The first study was a field study conducted in a rural area in India in which we found that activating a single savings goal led to significantly higher actual savings rates over a six-month window than activating multiple savings goal. We conducted Studies 2 to 4 in laboratory settings to assess the underlying process and related boundary conditions. Study 2 manipulated the implementation difficulty of the savings plan and replicated the field findings when the savings plan was difficult to implement. When the savings plan was easy to implement, the advantage of the single goal was attenuated. Furthermore, Study 2 confirmed the mediation role of implementation intention in this pattern of effect. In Study 3, we directly manipulated implementation intention and found that the difference between the single goal and multiple goals on savings intention disappeared when an implementation mind-set was induced. In Study 4, we replicated the effect of the single goal over multiple goals with a set of different single goals and found that the effect of a single goal did not depend on what the single goal was. It was the singularity rather than the content of the specific goal that mattered. More important, we showed an attenuated effect of the single goal over multiple goals when multiple goals were integrated to lead toward a higher-order goal. Throughout the laboratory studies, we also discuss and rule out alternative accounts, such as extent of imagery, dilution effect, or goal difficulty effect.

### STUDY 1

The purpose of Study 1 is to test the effect of a single goal over multiple goals on savings behavior in a field setting. In addition, from prior research that has shown that tactics such as earmarking (which is similar to budgeting

but takes more specific forms, such as envelopes to separate different accounts; Shefrin and Thaler 1988; Thaler 1985) increase savings behavior, we want to test whether such tactics influence the effect of a single goal on saving.

### Method

We conducted this field study in a small town in India. We recruited households for which the sole wage earner (1) worked as an agricultural or a factory worker, (2) had two children between the ages of 2 and 6, (3) earned cash income paid every two weeks (income range: INR 2050–3000 every two weeks), and (4) agreed to participate in a basic financial literacy program offered through a financial services firm and taught by one of the authors. We eliminated participants who had unusual additional financial burdens (e.g., taking care of a sick relative, paying off pawnbroker loans, covering household expenses for extended family elsewhere). Participants were recruited in collaboration with local social workers; the social workers informed laborers and their spouses that a financial planner would spend time with the households to discuss their incomes and expenses and to help them save money. All the materials used in this study were in the local language.

Eighty-three households availed the services of the financial planner. The financial planner, accompanied by a social worker, visited each of the families and helped them identify better money management strategies, as well as expenses that could be controlled. The current savings rate of this group, as tracked during a three-month period before the study, was 3.15%.

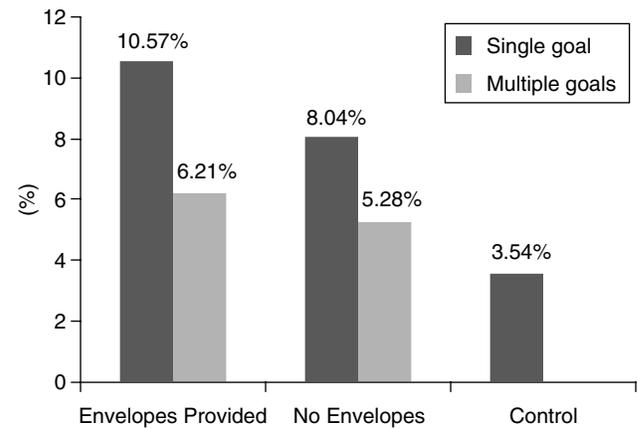
Within this basic setup, the specific instructions and interventions provided to households varied according to a 1 (control)+[2 (number of goals: single vs. multiple) × 2 (envelopes: provided or not)]. Except in the control conditions, participating households were told that it is helpful to have specific goal(s) in mind when saving. In the single-goal conditions, participants were told to save more because it would help finance their children's education. In the multiple-goal conditions, they were provided with two additional savings goals: to save more so that they could also (1) finance any health care needs they might have and (2) provide a nest egg for when they retire. Participants in the control condition were given no specific goals.

To facilitate the earmarking of savings (Soman and Cheema 2011), we provided half the households with a thick paper envelope to set aside cash they wanted to designate as savings. They were specifically told that "some families have found it useful to set aside some cash from their wages in a separate location to facilitate savings." The savings goal was further reinforced on the envelope: In the single-goal condition, the envelope had a small picture of a child, and in the multiple-goal condition, there were three pictures (a child, a hospital, and an old couple).

At the end of the meeting, the social worker informed the participating households that they would visit the household every two weeks to record the households' savings. Each household was provided with a sheet to record all expenses. During the next six months, social workers visited the 83 households, recorded spending (and saving) over the past period, recorded any changes in income frequency and level, and replenished any supplies (e.g., envelopes, recording sheets) the household needed. At the end of the

Figure 1

STUDY 1 RESULTS: SINGLE GOAL LEADS TO HIGHER SAVINGS RATE OVER SIX MONTHS THAN MULTIPLE GOALS



six months, we measured the total savings as a percentage of the total income earned during that period as our dependent variable.

### Results and Discussion

A 2 (number of goals) × 2 (envelopes) analysis of variance (ANOVA) showed a significant main effect of number of goals ( $M_{\text{single goal}} = 9.24\%$  vs.  $M_{\text{multiple goals}} = 5.79\%$ ;  $F(1, 65) = 37.45$ ,  $p < .001$ ) and envelopes ( $M_{\text{envelopes}} = 8.46\%$  vs.  $M_{\text{no envelopes}} = 6.90\%$ ;  $F(1, 65) = 8.91$ ,  $p < .005$ ; see Figure 1). No significant interaction was observed ( $F(1, 65) = 1.90$ ,  $p = .17$ ). A simple effect analysis also revealed a significantly stronger effect of single goal over multiple goals regardless of whether envelopes were provided ( $M_{\text{single goal}} = 10.57\%$  vs.  $M_{\text{multiple goals}} = 6.21\%$ ;  $F(1, 33) = 19.32$ ,  $p < .001$ ) or not ( $M_{\text{single goal}} = 8.04\%$  vs.  $M_{\text{multiple goals}} = 5.28\%$ ;  $F(1, 32) = 22.52$ ,  $p < .001$ ). These results support  $H_1$ . Comparing those savings rates with the control condition, we also found that providing specific goals led to higher savings rates than providing no specific goals, even if the goals were multiple ( $M_{\text{multiple goals}} = 5.28\%$  vs.  $M_{\text{no goal}} = 3.54\%$ ;  $t(1, 45) = 3.10$ ,  $p < .005$ ). This is consistent with prior findings that multiple goals lead to greater performance than no goals (Locke and Latham 1990).

The findings in Study 1 support  $H_1$ —a single goal led to higher savings rates than multiple goals, and this pattern held regardless of whether households received earmarking aids (i.e., envelopes to set aside the saving). In the next three laboratory studies, we aim to replicate the results in a more controlled environment and also attempt to identify the underlying process driving these effects to rule out various alternative explanations.

### STUDY 2

We designed Study 2 to test  $H_1$ – $H_3$  by manipulating number of goals and implementation difficulty of the savings program. We had two specific objectives. First, we wanted to test whether implementation difficulty of the savings program moderates the effect of number of goals on

savings intention. Second, we wanted to test for the mediating role of implementation intention on the effect of number of goals. We also addressed the question whether the effect of a single goal might be driven by that goal being imagined more concretely than multiple goals by adding a manipulation of the extent of visualization. If the difference in the extent of imagery is true, the stronger effect of the single goal would be attenuated if people in the no-goal or multiple-goal conditions were prompted to visualize the savings goals.

#### *Participants, Design, and Procedure*

A total of 194 participants in an executive skills training program conducted by a Canadian university in collaboration with a financial services firm completed this study. All participants of this financial firm (1) were male, (2) were between the ages of 30 and 36, (3) were married, (4) had either one or two children, and (5) were not considered expert investors. Participants' annual salary ranged from US\$60,000 to US\$86,000.

All participants were told that they would take part in two, ostensibly unrelated studies. In the first part, participants were asked to imagine that they and their spouse were about 30 years of age, had two young children, and were the sole wage earners in their family. They were then provided with a table with their essential expenses for a typical month that totaled US\$3,800. Participants were told that they and their spouse had very little by way of savings but that they were now starting to look ahead. Subsequently, participants read that their financial advisers had just introduced a new savings program for them. The program required them to deposit a minimum of \$300 each month for ten years to be invested in bonds and government securities. The guaranteed rate of return was 4%, and the fund was fully backed by the government (for details, see the Appendix).

Within this basic setup, we embedded a 2 (implementation difficulty: easy vs. difficult)  $\times$  2 (visualization: no vs. yes)  $\times$  3 (number of specific goals: none vs. single vs. multiple) between-subjects study design. We manipulated implementation difficulty by changing the salary and, thus, the surplus funds left over after incurring the essential expenses. In the difficult implementation conditions, participants were told that their monthly posttax salary was US\$4,200, which would leave them with a discretionary amount of \$400 that they could use for shopping, entertainment, dining out, or other purposes (i.e., after paying for the essential monthly expenses of \$3,800). In the easy implementation conditions, their monthly posttax salary was \$5,000, which would leave them with a discretionary amount of \$1,200. We manipulated visualization by giving participants appropriate instructions. In the visualization conditions, participants were further asked to take a moment to imagine the specific goal(s) in the goal conditions and to imagine this new savings program in the no-goal conditions. In the no-visualization conditions, participants proceeded directly to the questions.

We manipulated number of goals through the description of the savings program and the manner in which it was presented. Participants in the no-specific-goal conditions first read about the program and then read that their financial adviser left the decision to them as to whether they would

sign up and open an account. In the single-goal conditions, participants read an extra sentence from the financial adviser reminding them that they were now getting to a point at which they should start thinking about providing for their children's future education. In the multiple-goal conditions, the financial adviser reminded them that they were now getting to a point at which they should start thinking about their future financial well-being, including providing for their children's education, housing expenses, retirement savings, and other slush funds for emergencies.

As the dependent measures, participants indicated how likely they would be to open an account to join this program (hereinafter, JOIN). We recorded the responses on an 11-point scale (1 = "definitely no," and 11 = "definitely yes").

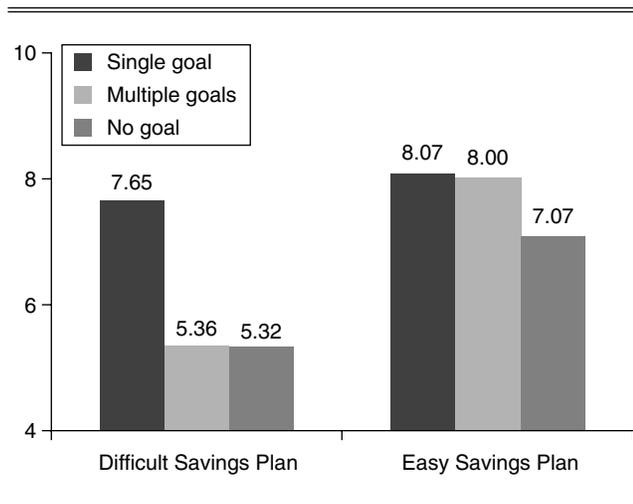
In the second, ostensibly unrelated part of the study, we included a measure for assessing whether participants had been primed by the first task to be in an implementation mind-set. They were asked to suppose that they were looking for a new job. They were told that after searching for a while, two positions for the same company caught their attention. Job A had the title "Business Planning Manager," and Job B had the title "Business Implementation Manager." As the key differences between these two jobs, Job A's key responsibilities included developing business plans and setting overall business goals and objectives, and the requirements were project development skill and being big-picture oriented and organized. Conversely, Job B's key responsibilities included carrying out business plans and identifying best practices and improvement opportunities. Its key requirements were project management skills and being detail oriented and efficient. Both jobs otherwise were similar in terms of salary and outlook, time commitment, and general requirements (in terms of degree, skill, and knowledge). After reading these descriptions, participants indicated their likelihood of applying to one of these jobs on an 11-point scale (1 = "definitely apply to A," and 11 = "definitely apply to B"). We expected that a greater preference for Job B (involving the execution of business plans) would reflect a greater tendency to be in an implementation mind-set.

#### *Results and Discussion*

A 2 (implementation difficulty)  $\times$  3 (number of specific goals)  $\times$  2 (visualization) ANOVA with JOIN as the dependent variable showed a significant interaction between implementation difficulty and number of goals ( $F(2, 182) = 3.73, p < .001$ ), as well as significant main effects of number of specific goals ( $F(2, 182) = 8.08, p < .001$ ), implementation difficulty ( $F(1, 182) = 21.97, p < .001$ ), and visualization ( $F(1, 182) = 4.39, p < .05$ ). However, the interaction between visualization and number of goals ( $F(2, 182) = .05, p = .95$ ) and the interaction between visualization and implementation difficulty ( $F(1, 182) = .26, p = .61$ ) were not significant, nor was the three-way interaction ( $F(2, 182) = .70, p = .50$ ). This pattern of results showed that visualization simply functioned to increase the savings intention overall, regardless of the other manipulations. Given these nonsignificant interactions of visualization with other factors, we collapsed the two visualization conditions for ease of exposition and report a new 2 (implementation difficulty)  $\times$  3 (number of specific goals) ANOVA as well as planned contrast subsequently.

Figure 2

STUDY 2 RESULTS: IMPLEMENTATION DIFFICULTY  
MODERATES THE EFFECT OF SINGLE GOAL OVER MULTIPLE  
GOALS ON SAVINGS INTENTION



*Savings intention.* The new two-way ANOVA with JOIN as the dependent variable showed a significant main effect of implementation difficulty ( $F(1, 188) = 21.97, p < .001$ ) and number of specific goals ( $F(2, 188) = 8.08, p < .001$ ), which was qualified by a significant interaction between these two factors ( $F(2, 188) = 3.73, p < .001$ ; see Figure 2). Specifically, when the savings program was difficult to implement, we replicated the stronger effect of providing a single goal on participants' intention to join the new savings program, compared with providing multiple goals ( $M_{\text{single goal}} = 7.65$  vs.  $M_{\text{multiple goals}} = 5.36$ ;  $F(1, 68) = 17.35, p < .001$ ) or no specific goal ( $M_{\text{single goal}} = 7.65$  vs.  $M_{\text{no goal}} = 5.32$ ;  $F(1, 60) = 15.20, p < .001$ ). These results further support  $H_1$ . However, when the savings program was easy to implement, the advantage of single goal was attenuated, such that it no longer led to higher intentions to join the new savings program, compared with multiple goals ( $M_{\text{single goal}} = 8.07$  vs.  $M_{\text{multiple goals}} = 8.00$ ;  $F(1, 64) = .02, p = .90$ ) or no specific goal ( $M_{\text{single goal}} = 8.07$  vs.  $M_{\text{no goal}} = 7.07$ ;  $F(1, 58) = 2.34, p = .13$ ). This moderation of implementation difficulty on savings intention is consistent with prior research (Gollwitzer 1999; Gollwitzer and Brandstätter 1997) and provides direct support to  $H_3$ .

*Implementation intention as the underlying mechanism.* In terms of participants' implementation intention, the 2 (implementation difficulty)  $\times$  3 (number of specific goals) ANOVA showed a similar pattern on participants' preferences for the two job positions. We observed a significant main effect of implementation difficulty ( $F(1, 188) = 6.50, p < .05$ ) and number of specific goals ( $F(2, 188) = 9.37, p < .001$ ), which were qualified by a marginally significant interaction between these two factors ( $F(2, 188) = 2.37, p = .09$ ). Consistent with the intention to join the savings program, when the savings program was difficult to implement, participants in the single-goal condition indicated a relatively greater preference for the implementation-oriented job (Job B or business implementation manager) than those in the multiple-goal condition ( $M_{\text{single goal}} = 5.62$  vs.  $M_{\text{multiple goals}} = 4.14$ ;  $F(1, 68) = 17.77, p < .001$ ) or those

in the no-specific-goal condition ( $M_{\text{single goal}} = 5.62$  vs.  $M_{\text{no goal}} = 4.00$ ;  $F(1, 60) = 15.07, p < .001$ ). However, when the savings program was easy to implement, participants in the single-goal condition no longer had a greater preference for the implementation-oriented job than those in the multiple-goal condition ( $M_{\text{single goal}} = 5.50$  vs.  $M_{\text{multiple goals}} = 4.97$ ;  $F(1, 64) = 1.77, p = .19$ ) or no-goal condition ( $M_{\text{single goal}} = 5.50$  vs.  $M_{\text{no goal}} = 5.00$ ;  $F(1, 58) = 1.35, p = .25$ ).

We performed a set of additional analyses to test the potential mediating role of implementation intention (i.e., preference for the implementation-oriented job) on the intention to join the savings program (Baron and Kenny 1986). First, the number of specific goals and implementation difficulty interactively predicted implementation intention ( $F(2, 188) = 2.37, p = .09$ ). Second, implementation intention was significantly correlated with the savings intention ( $r = .66, p < .001$ ). Third, the number of specific goals and implementation difficulty interactively predicted savings intention ( $F(2, 188) = 3.73, p < .001$ ). Fourth, the effect identified in the third step became nonsignificant ( $F(2, 187) = 2.37, p = .10$ ) after we added implementation intention as a covariate ( $F(1, 187) = 112.74, p < .001$ ) in the analysis. These analyses suggest a mediating role of implementation intention for the effect of number of goals and implementation difficulty on savings intention, consistent with our prediction in  $H_2$ .

The results in Study 2 provide further support for  $H_1$  and show that a single-savings goal led to higher savings intentions than multiple-savings goals (or no specific goals) when it was difficult to implement (i.e., tight discretionary income to join the savings program). However, consistent with  $H_3$  and prior research (Gollwitzer 1999; Gollwitzer and Brandstätter 1997), the advantage of the single goal was attenuated when the savings plan was easy to implement (i.e., abundant discretionary income to join the savings program). Furthermore, the mediation analysis supports  $H_2$  by showing that compared with multiple or no goals, a single goal led to higher implementation intentions, which in turn increased intentions to join the savings plan.

Although we found only a main effect of visualization in Study 2 (i.e., the visualization manipulation increased savings overall, but the difference between the single- and multiple-goal conditions persisted), we agree with the intuition that a single goal is more easily and vividly imagined than multiple goals. Indeed, the visualization manipulation could potentially have had different effects across the two goal conditions. In the multiple-goal condition, visualization might have helped to some degree, but it could also have boosted the effectiveness of the single goal by making it more vivid and salient. Although we do not have all the evidence to make a more nuanced analysis, our evidence suggests that the ability to visualize a single goal does not by itself explain the differences between the single- and multiple-goal conditions.

*Posttest on goal importance.* Study 2 tested the robustness of the field findings in a more controlled laboratory setting and provided evidence for the underlying process; however, it might be argued that multiple goals could become less important due to some kind of averaging process by which the weaker goals work against the stronger goal (Shanteau 1975). In a posttest, we measured the importance ratings of different goals to assess whether one goal

is perceived as less important than the others. Fifty-three participants were recruited and presented with a similar scenario as that in Study 2. The posttest used a four-level, single-factor design in which the financial adviser reminded participants of either all three savings goals (children's future education, future housing expenses, and retirement savings) or each of the three goals. Participants were then asked to think about the goal(s) their financial adviser mentioned and to evaluate each goal by its importance on an 11-point scale (1 = "not important at all," and 11 = "very important"). A repeated measures ANOVA in the multiple-goal condition showed no difference on the importance ratings for these three goals ( $M_{\text{children's education}} = 8.00$  vs.  $M_{\text{housing}} = 7.77$  vs.  $M_{\text{retirement}} = 7.46$ ;  $F(2, 24) = .29, p = .75$ ). These values were also not different from the rated importance in the single-goal conditions ( $M_{\text{children's education/multiple}} = 8.00$  vs.  $M_{\text{children's education/single}} = 7.31$ ;  $F(1, 24) = 1.42, p = .25$ ;  $M_{\text{housing/multiple}} = 7.77$  vs.  $M_{\text{housing/single}} = 7.69$ ;  $F(1, 24) = .01, p = .92$ ;  $M_{\text{retirement/multiple}} = 7.46$  vs.  $M_{\text{retirement/single}} = 7.46$ ;  $F(1, 24) = 0, p = 1.00$ ). These findings suggest that an account based on diluted goal importance in the multiple-goal conditions does not drive the superiority of the single-goal condition. We further address this issue in Studies 3 and 4.

### STUDY 3

We conducted Study 3 in Hong Kong with three objectives. First, the measure of implementation intention and the mediation analysis in Study 2 suggested that a single goal led to greater savings intention because it facilitated implementation intention. In Study 3, we directly manipulate implementation intention orthogonally to the number of goals. If implementation intention evoked by a single goal is truly the underlying mechanism for the stronger effect of the single goal, we should observe an attenuation of the effect of the single goal over multiple goals if we explicitly encourage implementation intention for people with multiple goals.

Second, both Studies 1 and 2 used children's education as the single goal. Because children's future tends to be of special relevance to most parents, it is conceivable that the results were driven by the effect associated with this particular goal rather than its singularity. Had we used another specific single goal, uncertainty remains whether we would have obtained the same effect. In Study 3, we use a different single goal (retirement savings) to check for robustness of the effect.

Third, we designed Study 3 to rule out two competing explanations. First, our effect might be that a single goal leads to higher savings intentions because it seems easier to achieve than multiple goals, which seem overwhelming and, thus, demotivating. We argue that it is not the difficulty of goal accomplishment in the multiple-goal conditions but rather the trade-off aversion due to the goal competition that defers people's actions. Study 3 addresses the difficulty account by showing that goals with the same level of accomplishment difficulty (e.g., multiple goals) have different effects depending on people's mind-set, which eliminates the possibility that the difficulty of goal accomplishment drives the results in our data. Second, we further address the account based on diluted goal importance.

### Participants, Design, and Procedure

A total of 134 adult heads of households who were members of a market research panel in Hong Kong participated in this study. Participants were all working professionals with school-age children and were all in the same income range. We adapted the stimulus in this study from the scenario in the difficult-to-implement conditions of Study 2 with amounts adjusted to reflect the local currency, cost of living, and income levels (i.e., discretionary amount of HKD \$4,000 per month). Because the scenarios used in Study 2 might have involved too many counterfactual scenarios with too many details of the savings program, we simplified the scenario and eliminated most details to increase the validity of the responses in Study 3 (for the stimuli, see the Appendix).

Study 3 used a 2 (number of goals: multiple vs. single)  $\times$  3 (mind-set: control vs. goal intention vs. implementation intention) between-subjects design. Similar to Study 2, the financial adviser in the multiple-goal conditions reminded participants that they were now getting to a point at which they should start thinking about their future financial well-being and develop a suitable strategy to provide benefits, such as their children's education, housing expenses, retirement savings, and other funds for emergencies. In the single-goal conditions, the financial adviser only reminded the participants of one goal, namely, retirement savings.

We manipulated mind-set through specific instructions that directly asked people to think about the "how" versus "why" of the savings program (Gollwitzer 1999). In the control conditions, participants did not receive additional instructions and answered questions directly. In the goal intention conditions in which we wanted participants to deliberate about their goals, we asked participants to consider the importance of joining this savings program—for example, the benefits associated with their future financial well-being. In the implementation intention conditions in which we wanted participants to think about implementing the savings goal, we asked participants to consider the details of joining this savings program—for example, whether to invest in bonds or government securities or whether to make a monthly or biweekly contribution (for the instructions, see the Appendix).

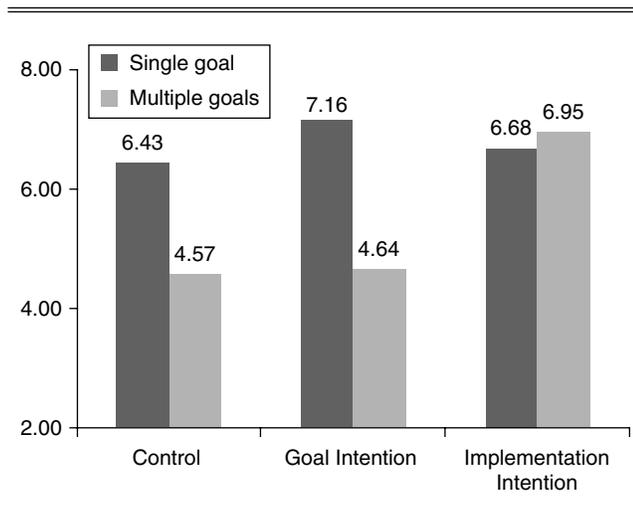
The main dependent variables again included respondents' likelihood of opening an account to join the savings program (JOIN; 1 = "definitely no," and 11 = "definitely yes"). Participants were asked to rate the importance of their overall future financial well-being and the importance of starting to save for their overall future financial well-being. Subsequently, they rated how easy/difficult they thought it was to join this savings program and how easy/difficult they thought it was to achieve the savings goal(s) mentioned by their financial adviser. All responses were on 11-point scales.

### Results and Discussion

*Savings intention.* A 2 (number of goals)  $\times$  3 (mind-set) ANOVA on JOIN showed a significant main effect of number of goals ( $F(1, 128) = 10.73, p = .001$ ) and mind-set ( $F(2, 128) = 3.46, p < .05$ ) on participants' savings intention. These effects were qualified by a significant two-way interaction between those two factors ( $F(2, 128) = 4.12,$

Figure 3

STUDY 3 RESULTS: THE EFFECT OF SINGLE GOAL OVER MULTIPLE GOALS ON SAVINGS INTENTION VANISHES IF IMPLEMENTATION INTENTION IS PROMPTED



$p < .05$ ; see Figure 3). In the control conditions, we replicated previous findings that a single goal led to significantly higher intentions to join the new savings program than multiple goals ( $M_{\text{single goal}} = 6.43$  vs.  $M_{\text{multiple goals}} = 4.57$ ;  $F(1, 40) = 6.76, p < .05$ ). Likewise, in the goal-intention conditions, a single goal outperformed multiple goals ( $M_{\text{single goal}} = 7.16$  vs.  $M_{\text{multiple goals}} = 4.64$ ;  $F(1, 45) = 13.83, p = .001$ ). However, when participants were prompted with implementation intention by considering the details of joining the savings program, the single goal no longer led to higher savings intentions than multiple goals ( $M_{\text{single goal}} = 6.68$  vs.  $M_{\text{multiple goals}} = 6.95$ ;  $F(1, 43) = .12, p = .73$ ). These results lend support to the notion that a single goal is superior because it induces an implementation intention.

*Goal importance and difficulty of goal achievement.* The ANOVAs for the perceived importance of overall future financial well-being and the importance of starting to save for future financial well-being showed no significant effects ( $ps > .20$  for all main effects and interactions; for the means in different conditions, see Table 1). These findings again

ruled out the dilution account and showed that the different effect of a single goal versus multiple goals on savings intention was not due to the perception of reduced goal importance in the multiple-goal conditions. Furthermore, additional ANOVAs for the perceived difficulty of joining the savings program and, more important, the perceived difficulty of achieving the saving goals showed no significant effects ( $ps > .25$ ; for the means, see Table 1). Thus, our manipulation of one versus many goals did not affect the perceived difficulty of joining the saving or achieving the savings goal, and thus the different effect of one versus multiple goals cannot be attributed to these perceived difficulties of saving.

Study 3 used a different goal as the single goal and confirmed that the stronger effect of the single goal we observed in Studies 1 and 2 was not due to the specific savings example we provided (i.e., saving for children’s future education). These results provide additional evidence for  $H_1$ . Furthermore, although we measured people’s implementation intention and tested its mediating role in Study 2, we directly manipulated people’s mind-set by prompting either a goal intention or an implementation intention in Study 3. If implementation intention is indeed the key underlying mechanism for the stronger effect of the single goal over multiple goals, this advantage should be attenuated if multiple goals are also accompanied with implementation intention. This is exactly what we found in Study 3. The direct measures on overall goal importance ruled out the dilution account. In addition, along with the measures on perceived difficulty of goal accomplishment, that the same number of goals (thus, the exact same level of accomplishment difficulty) had a different impact on savings intention depending on the mind-set provides indirect evidence to rule out the goal difficulty account.

STUDY 4

Study 3 manipulated implementation intention and switched off the effect of the single goal when people with multiple goals adopted an implementation intention through other means. Because our premise under the stronger effect of the single goal over multiple goals is that multiple goals evoke considerations of the goal trade-offs, which impede people from moving into an implementation mind-set, we believe that the advantage of a single goal over multiple

Table 1  
STUDY 3 MEANS FOR PERCEIVED IMPORTANCE AND DIFFICULTY

	Control		Goal Intention		Implementation Intention	
	Single	Multiple	Single	Multiple	Single	Multiple
Importance of future financial well-being (1 = “not important”; 11 = “very important”)	7.76	7.48	7.68	8.10	8.00	7.40
Importance of starting to save (1 = “not important”; 11 = “very important”)	7.10	8.00	7.32	7.97	7.56	7.35
Difficulty of joining the program (1 = “very easy”; 11 = “very difficult”)	8.57	7.86	8.05	8.14	8.64	7.65
Difficulty of achieving the savings goal(s) (1 = “very easy”; 11 = “very difficult”)	8.29	7.95	7.84	7.79	7.56	8.25

Notes: No significant simple effects were observed for each measure across different conditions.

goals will weaken in situations in which the multiple goals do not involve much trade-off and conflict. In Study 4, we directly compared competing multiple goals with integrated multiple goals to test  $H_4$ . In addition, to further examine whether a specific single goal or the singularity of the goal drives the effect of the single goal, we used different single goals. To again rule out the dilution account and difficulty account, we included measures of overall goal importance and difficulty of achieving the savings goal. Last, to provide additional support to our account based on an implementation mind-set, we measured participants' implementation intention.

#### *Participants, Design, and Procedure*

A total of 149 participants who were members of a market research panel study in India completed this study. Participants were all working professionals with school-age children and in a comparable income range. The scenario in Study 4 was based on the one in Study 3, with adjustments made for local currency and income levels of the participant pool (for the stimuli, see the Appendix).

Study 4 used a six-level, single-factor between-subjects design. We used three single-goal conditions, each of which reminded participants of their children's education, housing, or retirement savings. We used three multiple-goal conditions, each of which presented participants with all three goals with some additional instructions, as follows:

1. Multiple/control: This condition was the same as the control condition in Study 3, such that the financial adviser reminded participants of all three goals (i.e., children's education, future housing, and retirement savings).
2. Multiple/competing: The financial adviser further noted that "one of the challenges consumers face is that different savings goals 'compete' with one another. For example, every dollar you save for retirement is a dollar you can't save for your children's education or for future housing."
3. Multiple/integrated: The financial adviser further noted that "although it can seem like different savings goals 'compete' with one another, the fact is that they all serve toward your overall goal of achieving future financial well-being."

This manipulation of goal competition was based on the theory of mental accounting that people might mentally allocate different money in different accounts (Thaler 1999). Our intention in the integrated condition was to reframe the multiple mental accounts as a single account.

After participants read these scenarios, they were first asked whether they would like to open an account and join this program (yes/no). They were then asked to indicate how likely they would be to open an account to join the savings program, based on an 11-point scale. The participants who decided to join the program indicated the minimum savings amount they would put into this savings account every month. Participants also rated the importance of their overall future financial well-being and the importance of starting to save for each of the goal(s) mentioned by their financial adviser. Subsequently, they rated how easy/difficult they thought it was to achieve the savings goal(s) mentioned by their financial adviser and how likely they thought it was to achieve those goals. As manipulation checks for participants' consideration of goal competition, we asked participants to rate the extent to which they were thinking about (1) saving for different usage purposes, (2) competing savings purposes, and (3) the overall

savings goal without worrying about specific purposes. All responses were on 11-point scales.

To measure participants' implementation intention, we adopted the computer-choice question from Xu and Wyer (2007). Participants were asked to imagine that they wanted to purchase a computer and were provided with the descriptions of two alternatives. They could either choose one of the two computers or defer making a choice. We predicted that participants in the single-goal condition and integrated-multiple-goal condition would be more likely to choose one of the two computers, rather than deferring their choice, than those in the multiple-goal/control and multiple-goal/competing conditions.

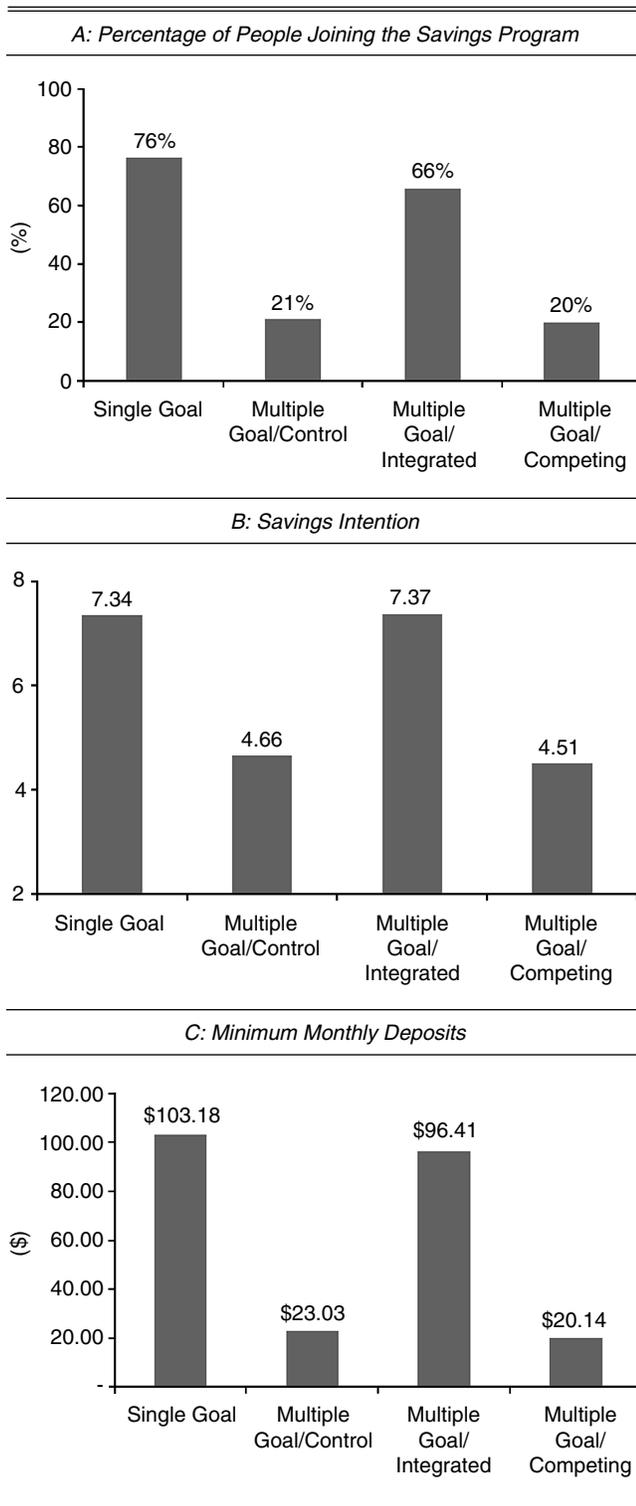
#### *Results and Discussion*

*Manipulation checks for perceived goal competition.* We found significant effects of the extent to which participants considered (1) saving for different usages ( $F(5, 143) = 3.75, p < .005$ ) and (2) saving for competing purposes ( $F(5, 143) = 32.52, p < .001$ ). Further contrast tests showed that participants in the multiple-goal/control condition and multiple-goal/competing conditions thought more about different savings usages than participants in the multiple-goal/integrated and single-goal conditions (average  $M_s = 6.30$  vs.  $5.06$ ); those in the former two conditions also thought more about competing savings purposes than the latter two conditions (average  $M_s = 7.73$  vs.  $4.49$ ). We also observed a significant difference in the extent to which participants thought about the overall savings goal without worrying about specific purposes ( $F(5, 143) = 3.94, p < .005$ ). Participants in the multiple-goal/integrated condition thought about the overall savings goal significantly more than the other three conditions (average  $M_s = 7.29$  vs.  $5.68$ ). Our manipulation of competing versus integrated goals therefore was successful.

For our main measures, we first conducted separate tests for the three single-goal conditions. A chi-square test on the binary choice of joining showed no significant differences ( $M_{\text{single/children's education}} = 77\%$  vs.  $M_{\text{single/future housing}} = 77\%$  vs.  $M_{\text{single/retirement savings}} = 75\%$ ;  $\chi^2(2) = .02, p = .99$ ). One-way ANOVAs also confirmed that there was no difference in relative likelihood of joining the program ( $M_{\text{single/children's education}} = 7.46$  vs.  $M_{\text{single/future housing}} = 7.00$  vs.  $M_{\text{single/retirement savings}} = 7.58$ ;  $F(2, 35) = .45, p = .64$ ) or minimum monthly deposit ( $M_{\text{single/children's education}} = \$125.77$  vs.  $M_{\text{single/future housing}} = \$111.62$  vs.  $M_{\text{single/retirement savings}} = \$69.58$ ;  $F(2, 35) = .54, p = .59$ ) across the three single-goal conditions. Thus, we collapsed these three conditions and conducted our analysis on the basis of a four-level (number of goals: single, multiple/control, multiple/competing, and multiple/integrated) between-subjects design.

*Binary choice and relative likelihood of joining the savings program.* An overall chi-square analysis showed significant differences across conditions for participants' choice of joining the savings program ( $\chi^2(3) = 39.05, p < .001$ ; see Figure 4, Panel A). We found that more participants in the single goal chose to join this program than those in the multiple/control condition ( $M_{\text{single}} = 76\%$  vs.  $M_{\text{multiple/control}} = 21\%$ ;  $\chi^2(1) = 23.23, p < .001$ ). However, in the conditions with multiple goals, significantly more people wanted to join the program if the goals were framed as integrated ( $M_{\text{multiple/integrated}} = 66\%$  vs.  $M_{\text{multiple/control}} = 21\%$ ;

Figure 4  
STUDY 4 RESULTS



$\chi^2(1) = 39.05, p < .001$ ), which was no longer different from the single/control condition ( $M_{\text{multiple/integrated}} = 66\%$  vs.  $M_{\text{single}} = 76\%$ ;  $\chi^2(1) = 1.02, p = .31$ ). When the competition was explicitly noted, the percentage of people who wanted to join the program did not change compared with the control condition ( $M_{\text{multiple/competing}} = 20\%$  vs.  $M_{\text{multiple/control}} =$

21%;  $\chi^2(1) = .01, p = .91$ ). This finding is consistent with our theorizing that people naturally think about the competition among the goals when facing multiple-savings goals. Participants' relative likelihood of joining the program on the continuous scale completely replicated the patterns of binary choice ( $F(3, 145) = 25.04, p < .001$ ; see Figure 4, Panel B).

**Minimum monthly deposit.** We coded the monthly deposits amount of the people who chose not to join the savings program as \$0 and ran an overall ANOVA on monthly deposits. The results showed a significant difference across conditions ( $F(3, 145) = 7.30, p < .001$ ; see Figure 4, Panel C). Participants in the single-goal condition indicated a significantly higher number than those in the multiple-goal/control condition ( $M_{\text{single}} = \$103.18$  vs.  $M_{\text{multiple/control}} = \$23.02$ ;  $F(1, 74) = 10.12, p < .005$ ). However, when the multiple goals became integrated, people were willing to deposit a significantly higher amount ( $M_{\text{multiple/integrated}} = \$96.40$  vs.  $M_{\text{multiple/control}} = \$23.02$ ;  $F(1, 74) = 10.54, p < .005$ ), which was no longer different from the single-goal condition ( $M_{\text{multiple/integrated}} = \$96.40$  vs.  $M_{\text{single}} = \$103.18$ ;  $F(1, 74) = .05, p = .82$ ). In the multiple-goal condition with specified competition, the minimum monthly deposits did not differ from the control condition ( $M_{\text{multiple/competing}} = \$20.14$  vs.  $M_{\text{multiple/control}} = \$23.02$ ;  $F(1, 75) = .04, p = .85$ ).

**Goal importance and difficulty of goal achievement.** The ANOVA for the perceived importance of the overall future financial well-being showed no significant effect across the four conditions ( $F(3, 145) = 1.07, p = .37$ ). In terms of the importance of each specific goal, there was no difference for the importance of children's education ( $F(3, 120) = .98, p = .41$ ) and retirement savings ( $F(3, 119) = 1.19, p = .32$ ; for the means, see Table 2) across the four conditions. We observed a difference for the importance of future housing ( $F(3, 120) = 3.69, p < .05$ ); however, a closer examination suggested that the difference was attributed to a lower importance rating in the single-goal condition than in the three multiple-goal conditions (average  $M_{\text{single}} = 6.15$  vs.  $M_{\text{multiple}} = 7.74$ ). That the importance ratings in the single-goal condition were either the same as or even lower than those in the multiple-goal conditions, yet the single goal still led to significantly higher savings intentions and minimum deposit amounts than multiple goals, showed that the effect of the single goal cannot be due to its higher perceived goal importance. We found no difference in terms of the perceived difficulty of joining the savings program ( $F(3, 145) = .38, p = .77$ ) or the likelihood of achieving the saving goals ( $F(3, 145) = .91, p = .44$ ; for the means, see Table 2) across conditions. This finding indicates that our manipulation of number of goals did not affect the perceived difficulty of joining the savings program or likelihood of achieving the savings goal, and thus the different effect of a single versus multiple goals cannot be attributed to perceived difficulties of savings goals.

**Implementation intention (computer choice).** Participants' computer choice showed a significant difference across conditions ( $\chi^2(3) = 27.85, p < .001$ ). In support of our prediction that the single goal led to higher implementation intentions and action orientation, we found that more participants in the single condition chose a computer (rather than deferring the choice) than in the multiple/control condition ( $M_{\text{single}} = 84\%$  vs.  $M_{\text{multiple/control}} =$

**Table 2**  
STUDY 4 MEANS FOR PERCEIVED IMPORTANCE AND DIFFICULTY

	<i>Single Goal</i>	<i>Multiple/Control</i>	<i>Multiple/Integrated</i>	<i>Multiple/Competing</i>
Importance of overall financial well-being (1 = "not important"; 11 = "very important")	6.87	7.45	7.34	7.51
Importance of children's education (1 = "not important"; 11 = "very important")	7.92	7.37	7.47	8.03
Importance of future housing (1 = "not important"; 11 = "very important")	6.15	7.71	7.50	8.00
Importance of retirement savings (1 = "not important"; 11 = "very important")	7.00	7.71	7.08	7.23
Difficulty of joining the program (1 = "very easy"; 11 = "very difficult")	4.97	5.32	5.08	4.94
Likelihood of achieving the savings goal(s) (1 = "not at all"; 11 = "very likely")	7.47	6.97	6.97	6.83

Notes: No significant simple effects were observed for each measure across different conditions.

42%;  $\chi^2(1) = 14.48, p < .001$ ). However, when the multiple goals were integrated, the percentage of people choosing a computer significantly increased ( $M_{\text{multiple/integrated}} = 79\%$  vs.  $M_{\text{multiple/control}} = 42\%$ ;  $\chi^2(1) = 10.79, p < .001$ ), which was no longer different from the single-goal condition ( $M_{\text{multiple/integrated}} = 79\%$  vs.  $M_{\text{single}} = 84\%$ ;  $\chi^2(1) = .35, p = .55$ ). When the goals were competing, the percentage of people who made a computer choice did not change compared with the control condition ( $M_{\text{multiple/competing}} = 37\%$  vs.  $M_{\text{multiple/control}} = 42\%$ ;  $\chi^2(1) = .19, p = .67$ ). These findings confirm the prediction that the single goal facilitated an implementation mind-set whereas multiple goals impede people from moving into such an action-oriented mind-set because of the goal competition and trade-off considerations for the multiple goals. However, after we eliminate the competition among the multiple goals, the hurdle to the implementation mind-set is removed, and multiple goals become as effective as a single goal.

Study 4 used different single goals, and the results replicated the advantage of the single goal on savings intention while ruling out the explanation that the effect was due to a specific goal. More important, Study 4 manipulated goal competition and showed that when the goals did not involve competition, and thus the trade-off was not an issue, the effect of the single goal over multiple goals was attenuated, providing evidence for  $H_4$ . This finding also confirms our assumption that it is the competition and trade-off among the goals in the multiple-goal conditions that prevent people from moving into an implementation mind-set. When

the trade-off among multiple goals was weakened, the disadvantage of multiple goals was attenuated. Participants' implementation intention measure fully replicated the findings in savings intention, which provides additional (indirect) support to  $H_2$  that the implementation intention drove the effect of single goal versus multiple goals. In addition, the direct measures on overall goal importance and goal difficulty again ruled out the dilution and goal difficulty accounts.

### GENERAL DISCUSSION

One common strategy to encourage people to save is to bombard them with multiple reasons to save. For example, household financial advice websites often emphasize multiple reasons to save (e.g., Ezarik 2006). The underlying assumption for this strategy is the belief that when faced with several good saving goals, people are more likely to save. In our research, we show that such a strategy can backfire and that a single savings goal can actually result in increased savings rates than multiple savings goals. Specifically, drawing from the implementation intention literature (Gollwitzer 1999), we argue that multiple goals activate a more deliberative mind-set because of the trade-off consideration between different goals whereas a single goal prompts an implemental mind-set that leads to greater action engagement and higher savings.

#### Summary of Findings

The results from four studies provide evidence for our theorizing. Study 1 demonstrates the effect of providing a single goal over multiple goals in improving people's actual savings rate over six months in a rural area in India. Studies 2–4 replicate these basic effects in laboratory settings while providing additional support to the underlying mechanism. Specifically, the mediation analysis in Study 2 showed that a single goal indeed led to higher implementation intentions, which in turn resulted in stronger intentions to save. Study 2 showed that the advantage of a single goal over multiple goals was stronger when the savings program was difficult to implement, and this advantage was attenuated when the program was easy to implement (Gollwitzer 1999; Gollwitzer and Brandstätter 1997). In Study 3, we directly manipulated implementation intention and found that the stronger effect of the single goal on savings intention over multiple goals went away when participants were explicitly asked to form implementation intentions in the multiple-goal condition. These findings suggest that the key reason for the effect of the single goal is the implementation intention it activates. In Study 4, we showed that the effect of the single goal over multiple goals on savings intention and implementation intention was attenuated when the goal trade-off, and thus the hurdle to an implementation mind-set, was eliminated. We ruled out more vivid imagery of a single savings goal as an alternative explanation in Study 2, and we ruled out accounts based on diluted importance and difficulty of goal accomplishment in Studies 3 and 4. Studies 3 and 4 also showed that the effect of a single goal is not due to the content of a specific goal but rather its singularity. These findings offer novel insights for designers of savings products and for policy makers interested in encouraging consumer saving.

Note that in Study 2, we showed that the effect of a single goal over multiple goals is dependent on the implementation difficulty of the savings program (i.e., having a tight vs. an abundant budget to join the savings program), such that it is stronger for the difficult-to-implement goal and weakened for easy-to-implement goal. However, we also argue that ease of accomplishing the goal is not the underlying mechanism for the effect of single goals. Although this might seem conflicting at first, we emphasize that we differentiate between two types of goal difficulty in our studies: implementation difficulty (e.g., ease or difficulty of joining the savings program) and accomplishment difficulty (ease or difficulty of accomplishing the ultimate goals mentioned by the financial adviser). Given that these are different constructs, the moderating role of implementation difficulty does not qualify the conjecture that the effect of the single goal is due to the perceived ease of accomplishment of the goal(s), which is supported by our findings in Studies 3 and 4.

#### *Contribution and Future Research*

Prior research on consumers' financial decision making has examined the impact of different factors on their decisions, including the effects of mental accounting, payment mechanisms, earmarking on consumer spending and saving (Prelec and Loewenstein 1998; Soman 2001; Thaler 1999), and the effect of temporal separation between payments and consumption on consumer decisions (Gourville and Soman 1998). We add to this stream of research by demonstrating another way to increase savings behavior/intention—that is, limiting the number of savings goals to evoke an implementation mind-set, which leads to higher savings behavior/intention.

From a broader perspective, a large amount of research has been devoted to resolving the discrepancy between a good goal intention and the actual implementation of the goal and has suggested strategies such as precommitment, partitions, avoidance of the tempting stimuli, and mental simulation (Cheema and Soman 2008; Hoch and Loewenstein 1991; Thaler and Benartzi 2004; Zhao, Hoeffler, and Zauberman 2007). Our findings contribute to this goal literature by proposing a novel approach to facilitate goal attainment—namely, through the identification and highlighting of one single goal rather than multiple goals, because the former facilitates an implementation mind-set. In this sense, we also add to the implementation literature by showing that beyond explicitly instructing people to form an implementation intention (Gollwitzer 1999) or prompting a precedent choice (Xu and Wyer 2007), an implementation mind-set can also be achieved through the number of goals presented.

Our work provides noteworthy findings regarding the effect of the number of goals on savings behavior. Specifically, it extends prior research with mixed findings on the effect of multiple goals (Locke and Latham 1990). Although Locke and Latham (1990) find that multiple goals were more effective, their findings were mostly based on the comparison between multiple goals and no goals because multiple goals were more specific. We explicitly compare multiple goals with a single goal and show a stronger effect of a single goal over multiple goals. This may seem contradictory to the findings in the attitude literature regarding the strong effect of presenting multiple

arguments for using a product. For example, according to the elaboration likelihood model, attitude change occurs through either the central or the peripheral route (Petty and Cacioppo 1984). Regardless of which route is activated, a higher number of arguments should lead to more positive product evaluations or attitudes toward an object. We believe the reason for the different findings in our research is because of the difference between behavior intention and general attitude or the relationship between the arguments (integrated or conflicting). An extensive comparison of attitude and behavior intention is beyond the scope of the current research; however, further research could fruitfully study why the number of arguments has a different effect on attitudes and behaviors and how conscious information processing (elaboration likelihood model) versus automatic activation of behavior intentions (due to a single goal) might play a role in these effects. Finally, while our research domain is consumer savings, research could investigate whether these principles also apply to nonsavings behavior, such as going to the gym, participating in health or weight-loss programs, or even accomplishing tasks.

#### *APPENDIX: STIMULI*

##### *Stimuli for Study 2*

Imagine that you and your spouse are about 30 years old and have two young children. Your monthly posttax salary is \$4,200 (\$5,000), you are the sole earner in your family, and your essential expenses for a typical month are as follows:

<i>Category</i>	<i>Monthly Expense (\$)</i>
Childcare	\$600
Apartment rental (all utilities inclusive)	1,800
Transportation and cell phone	400
Groceries	800
Other bills	200

This leaves you with a discretionary amount of \$400 (\$1,200) per month, which you can use for shopping, entertainment, dining out, or other purposes. You and your spouse have very little by way of savings, but you are now starting to look ahead.

Your financial adviser has just introduced a new savings program to you. The program requires you to deposit a fixed amount each month for ten years, to be invested in bonds and government securities. Below are the key features of this program:

<i>Features</i>	<i>Specification</i>
Fully backed by the government	Yes
Guaranteed rate of return	4%
Maturity	10 years after the account creation
Minimum monthly deposit	\$300

Your adviser leaves the decision to you as to whether or not you would sign up and open an account. However, he does remind you that you are now getting to a point at which you should start thinking about providing for your children's future education (thinking about your future financial well-being, including providing for your

children's education, housing expenses, retirement savings, and other slush funds for emergencies). (Note that currency is in U.S. dollars in this study.)

#### Stimuli for Study 3

Suppose you have a job with reasonable payment that gives you a monthly discretionary income of about \$4,000 after necessary expenses such as rent, supermarket food bills, and utilities. You have very little by way of savings, but you are now starting to look ahead.

Your financial adviser has just introduced a new savings program to you. The program requires you to deposit a fixed amount regularly for ten years to be invested in bonds and certificates of deposits with a guaranteed rate of return of 4%.

Your adviser leaves the decision to you as to whether or not you would enroll and open an account. However, he does remind you that you are now getting to a point at which you should start thinking about your future financial well-being and develop a suitable strategy to provide benefits such as retirement savings (such as your children's education, housing expenses, retirement savings, and other funds for emergencies). (Note that currency is in Hong Kong dollars in this study.)

#### Mind-Set Manipulation for Study 3

*Goal intention.* Before making your decisions, please take a moment to consider the importance of joining this savings program. For example, you could think about the benefits associated with your future financial well-being.

*Implementation intention.* Before making your decisions, please take a moment to consider the details of joining this savings program. For example, you could think about whether to invest in bonds or government securities or whether to make a monthly or biweekly contribution.

#### Stimuli for Study 4

Suppose you have a job with reasonable payment that gives you a monthly discretionary income of about Rs. 40,000 after necessary expenses such as rent, supermarket food bills, and utilities. You have very little by way of savings, but you are now starting to look ahead.

Your financial adviser has just introduced a new savings program to you. The program requires you to deposit a fixed amount regularly for ten years to be invested in bonds and certificates of deposits with a guaranteed rate of return of 4%.

Your adviser leaves the decision to you as to whether or not you would enroll and open an account. However, he does remind you that you are now getting to a point at which you should start thinking about your future financial well-being and develop a suitable strategy to provide for expenses such as your children's education, future housing, retirement savings, and other funds for emergencies (such as your children's education) (such as future housing) (such as retirement savings). (Note that currency is in Indian rupee in this study.)

#### REFERENCES

- Ainslie, George (1975), "Specious Reward: A Behavioral Theory of Impulsiveness and Impulse Control," *Psychological Bulletin*, 82 (4), 463-96.
- and Nick Haslam (1992), "Self-control," in *Choice over Time*, George Loewenstein and Jon Elster, eds. New York: Sage Publications, 177-209.
- Atkinson, John W. (1957), "Motivational Determinants of Risk-Taking Behavior," *Psychological Review*, 64 (6), 359-72.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-82.
- Baumeister, Roy (2002), "Yielding to Temptation: Self-Control Failure, Impulsive Purchasing, and Consumer Behavior," *Journal of Consumer Research*, 28 (4), 670-76.
- Cheema, Amar and Dilip Soman (2008), "The Effect of Partitions on Controlling Consumption," *Journal of Marketing Research*, 45 (November), 665-75.
- Dhar, Ravi, Joel Huber, and Uzma Khan (2007), "The Shopping Momentum Effect," *Journal of Marketing Research*, 64 (August), 370-78.
- Elster, Jon (1979), *Ulysses & the Sirens: Studies in Rationality & Irrationality*. New York: Cambridge University Press.
- Erez, Miriam, Daniel Gopher, and Nira Arazi (1990), "Effects of Self-Set Goal and Monetary Rewards on Dual Task Performance," *Journal of Organizational Behavior and Human Decision-Making*, 47 (2), 247-69.
- Ezarik, Melissa M. (2006), "9 Best Reasons to Save Money," *Savings Guide 2006*, (October 1), (accessed August 29, 2011), [available at <http://www.bankrate.com/brm/news/sav/2006savmg/criticala1.asp>].
- Gollwitzer, Peter (1990), "Action Phases and Mind-Sets," in *The Handbook of Motivation and Cognition: Foundations of Social Behavior*, Vol. 2, Tory Higgins and Richard Sorrentino, eds. New York: Guilford Press, 53-92.
- (1999), "Implementation Intentions: Strong Effects of Simple Plans," *American Psychologist*, 54 (7), 493-503.
- and Veronika Brandstätter (1997), "Implementation Intentions and Effective Goal Pursuit," *Journal of Personality and Social Psychology*, 73 (1), 186-99.
- and Paschal Sheeran (2009), "Self-Regulation of Consumer Decision Making and Behavior: The Role of Implementation Intentions," *Journal of Consumer Psychology*, 19 (4), 593-607.
- Gourville, John T. and Dilip Soman (1998), "Payment Depreciation: The Behavioral Effects of Temporally Separating Payments from Consumption," *Journal of Consumer Research*, 25 (2), 160-74.
- Heath, Chip and Jack Soll (1996), "Mental Budgeting and Consumer Decisions," *Journal of Consumer Research*, 23 (1), 40-52.
- Herrnstein, Richard and Drazen Prelec (1991), "Melioration: A Theory of Distributed Choice," *Journal of Economic Perspectives*, 5 (3), 137-56.
- Hoch, Steve and George Loewenstein (1991), "Time-Inconsistent Preferences and Consumer Self-Control," *Journal of Consumer Research*, 17 (4), 492-507.
- Hull, Clark (1932), "The Goal-Gradient Hypothesis and Maze Learning," *Psychological Review*, 39 (1), 25-43.
- Ivancevich, John (1977), "Different Goal Setting Treatments and Their Effects on Performance and Job Satisfaction," *Academy of Management Journal*, 20 (3), 406-419.
- Klein, Howard (1991), "Further Evidence on the Relationship Between Goal-Setting and Expectancy Theory," *Organizational Behavior and Human Decision Processes*, 49 (2), 230-57.

- Kruglanski, Arie, James Shah, Antonio Pierro, and Lucia Mannetti (2002), "When Similarity Breeds Content: Need for Closure and the Allure of Homogeneous and Self-resembling Groups," *Journal of Personality and Social Psychology*, 83 (3), 648–62.
- Lewin, Kurt (1951), *Field Theory in Social Science; Selected Theoretical Papers*, D. Cartwright, ed. New York: Harper & Row.
- Locke, Edwin and Gary Latham (1990), *A Theory of Goal Setting and Task Performance*. Englewood Cliffs, NJ: Prentice Hall.
- and ——— (2002), "Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-year Odyssey," *American Psychologist*, 57 (9), 705–717.
- Loewenstein, George (1996), "Out of Control: Visceral Influences on Behavior," *Organizational Behavior and Human Decision Processes*, 65 (3), 272–92.
- Orbell, Sheina, Sarah Hodgkins, and Paschal Sheeran (1997), "Implementation Intentions and the Theory of Planned Behavior," *Personality and Social Psychology Bulletin*, 23 (9), 945–54.
- Organisation for Economic Co-operation and Development (2008), "OECD Economic Outlook, No 83," (June), [available at [http://stats.oecd.org/Index.aspx?DataSetCode=EO83\\_MAIN](http://stats.oecd.org/Index.aspx?DataSetCode=EO83_MAIN)].
- Petty, Richard and John Cacioppo (1984), "The Effects of Involvement on Responses to Argument Quantity and Quality: Central and Peripheral Routes to Persuasion," *Journal of Personality and Social Psychology*, 46 (1), 69–81.
- Prelec, Drazen and George Loewenstein (1998), "The Red and the Black: Mental Accounting of Savings and Debt," *Marketing Science*, 17 (1), 4–28.
- Schelling, Thomas (1984), "Self-Command in Practice, in Policy, and in a Theory of Rational Choice," *American Economic Review*, 74 (2), 1–11.
- Shanteau, James (1975), "Averaging versus Multiplying Combination Rules of Inference Judgment," *Acta Psychologica*, 39 (1), 83–89.
- Shefrin, Hershey and Richard Thaler (1988), "The Behavioral Life-Cycle Hypothesis," *Economic Inquiry*, 26 (October), 609–643.
- Soman, Dilip (2001), "Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments," *Journal of Consumer Research*, 27 (March), 460–74.
- and Hee-Kyung Ahn (2010), "Mental Accounting and Individual Welfare," in *Perspectives on Framing*, Gideon Keren, ed. New York: Psychology Press, 65–92.
- and Amar Cheema (2004), "When Goals Are Counterproductive: The Effects of Violating a Behavioral Goal on Performance," *Journal of Consumer Research*, 31 (1), 52–62.
- and ——— (2011), "Earmarking and Partitioning: Increasing Savings by Low-Income Households," *Journal of Marketing Research*, 48 (Special Issue), S14–S22.
- and Mengze Shi (2003), "Virtual Progress: The Effect of Path Characteristics on Perceptions of Progress and Choice Behavior," *Management Science*, 49 (9), 1229–50.
- , Jing Xu, and Amar Cheema (2010), "A Theory of Decision Points," *Rotman Magazine*, (Winter), 64–68.
- Taylor, Shelly and Peter Gollwitzer (1995), "Effects of Mindset on Positive Illusions," *Journal of Personality and Social Psychology*, 69 (2), 213–26.
- Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199–214.
- (1999), "Mental Accounting Matters," *Journal of Behavioral Decision Making*, 12 (3), 183–206.
- and Shlomo Bernartzi (2004), "Save More Tomorrow: Using Behavioral Economics to Increase Employee Savings," *Journal of Political Economy*, 112 (1), 164–87.
- Thompson, Debora, Rebecca Hamilton, and Petia Petrova (2009), "When Mental Simulation Hinders Behavior: The Effects of Process-Oriented Thinking on Decision Difficulty and Performance," *Journal of Consumer Research*, 36 (December), 562–74.
- Xu, Jing and Robert Wyer (2007), "The Effect of Mind-Sets on Consumer Decision Strategies," *Journal of Consumer Research*, 34 (4), 556–66.
- and ——— (2008), "The Comparative Mind-Set: From Animal Comparisons to Increased Purchase Intentions," *Psychological Science*, 19 (9), 859–64.
- Zhao, Min, Steve Hoeffler, and Gal Zauberman (2007), "Mental Simulation and Preference Consistency over Time: The Role of Process-Versus Outcome-Focused Thoughts," *Journal of Marketing Research*, 44 (August), 379–88.