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## Saving in cycles: how to get people to save more money

### Abstract

Low personal savings rates are an important social issue in the United States. We propose and test one particular method to get people to save more money that is based on the cyclical time orientation. In contrast to conventional, popular methods that encourage individuals to ignore past mistakes, focus on the future and set goals to save money, our proposed method frames the savings task in cyclical terms, emphasizing the present. Across the studies, individuals using our proposed cyclical savings method provide an average of 74% higher savings estimates and save an average of 78% more money when compared to those using a linear savings method. We also find that the cyclical savings method is more efficacious as a result of greater implementation planning and lower future optimism regarding saving money.

### Keywords

money, get, save, cycles, people, saving, more

### Disciplines

Business

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**Saving in Cycles: How to Get People to Save More Money**

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**Abstract**

Low personal savings rates are an important social issue in the United States. We propose and test one particular method to get people to save more money that is based on the cyclical time orientation. In contrast to conventional, popular methods that encourage individuals to ignore past mistakes, focus on the future and set goals to save money, our proposed method frames the savings task in cyclical terms, emphasizing the present. Across the studies, individuals using our proposed cyclical savings method provide an average of 74% higher savings estimates and save an average of 78% more money when compared to those using a linear savings method. We also find that the cyclical savings method is more efficacious as a result of greater implementation planning and lower future optimism regarding saving money.

*Keywords:* Cyclical time orientation, personal savings, implementation plan, future optimism, financial decision making

### **Saving in Cycles: How to Get People to Save More Money**

The U.S. personal savings rate has hovered below 5% for much of the past decade (Federal Reserve Bank of St. Louis, 2012), significantly below what is required to retire comfortably (Skinner, 2007). Although automatic payroll deduction by employers is an effective way to increase savings (Thaler & Bernartzi, 2004), only 38 percent of eligible employees participate in such plans (Helman, et al., 2012). Getting people to save more money is an important challenge for policy makers and social scientists.

In this research, we propose and test one particular method to get people to save more money. In contrast to popular savings methods that encourage individuals to ignore past mistakes, focus on the future and set goals to save money (Adams & Rau, 2011; Ramsey, 2007; Ülkümen & Cheema, 2011), our proposed method frames the savings task in cyclical terms, focusing on the present. It emphasizes the diagnostic significance of current savings behavior over its causal significance in motivating the person.

The difference between our proposed method and conventional methods can be traced to psychological, religious, and cultural perspectives on time orientation that distinguish between cyclical and linear models of time. Whereas a linear model of time characterizes life events in past, present, and future terms, a cyclical model sees them as a series of recurring experiences (e.g., Caillois & McKeon, 1963; Müller & Giesbrecht, 2006). Under the linear model of time, the individual's focus is on the forward flow of time and on an improvement from the current state (Müller & Giesbrecht, 2006). In contrast, the future is seen as determined by past and present events, and the diagnostic significance of current actions provides motivation under the cyclical model of time.

The conventional wisdom among personal finance experts is that saving approaches drawing upon the linear model are more effective. They motivate individuals by rejecting their past failure to save, orient them towards the future, and encourage striving to reach savings

goals<sup>1</sup>. However we think that people will save more when encouraged to view time in a cyclical fashion which emphasizes recurrent behavioral patterns than when encouraged to view time in a linear fashion, which emphasizes the time remaining to achieve goals. We believe this because of two reasons. First, our proposed cyclical method will lead to concrete and detailed implementation planning to a greater degree (Liberman & Trope, 1998), whereas the linear approach will result in framing of the savings task in more abstract terms (Trope & Liberman, 2003), reducing implementation planning (Gollwitzer & Sheeran, 2006).

The second reason is that individuals using these models will have different degrees of future optimism about saving money. By believing that the future will be better than the present, linear method savers will make more optimistic assessments about their future saving. This prediction is supported by prior research which has shown that individuals make over-optimistic predictions regarding future behavior (Weinstein, 1980) and their ability to achieve future goals (Zauberman & Lynch, 2005). The upshot is that individuals using the linear approach will defer saving to a greater degree (Tam & Dholakia, 2011) with the expectation of having more money and increased ability to save and control spending in the future. The cyclical model does not endorse a progressively improving life pattern; thus the decision maker will be less optimistic or defer saving money. As Americans tend to be linear in their time orientation (Briley, 2009), we believe that teaching them the cyclical savings approach offers a potentially useful and effective method to help them save more money.

We tested our predictions in three studies. To first examine validity of the hypothesized effects of the linear vs. cyclical models of time, Study 1 assessed the effects of a general (non-savings-specific) manipulation based on these two time orientations on savings estimates of participants. In Study 2, we developed and tested savings-specific instructions based on the cyclical and linear models, measuring both savings estimates and actual savings of participants.

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<sup>1</sup> In a survey of the 300 most popular personal finance bloggers in the United States, we found that 47.8% of the respondents recommended a savings method based on the linear model, but less than a third, or 32.2% recommended the cyclical savings method (described in detail in Study 2). The remainder preferred both methods equally.

Finally, in Study 3, we examined the roles of two potential mediators for the effect described above: the individual's degree of implementation planning and his or her future optimism regarding saving money on savings estimates in the near and distant future. Overall, our findings show that getting people to think of saving money in cyclical terms significantly increases how much money they predict they will save and how much money they actually save.

### **Study 1: Cyclical vs. Linear Orientation and Savings Estimates**

#### **Purpose and Method**

Participants were 157 employed<sup>2</sup> online panelists (80% female, average age = 58 years) and were randomly assigned to either cyclical or linear orientation conditions. Participants were told that we wanted their opinion regarding a method developed by life coaches, which was then described (see below). Afterwards, participants wrote an essay explaining ways in which they would apply the method to different aspects of their lives. Instructions in the “cyclical orientation” condition were:

*“This idea acknowledges that our lives consist of many small and large cycles, that is, events that repeat themselves, just like the four seasons return every year. In this orientation, the individual expects the future to be like the present as these cycles repeat themselves. Therefore, completing important tasks involves incorporation of these repeating cycles, and so the person tries to create routines or habits right now, such that the same actions for these important tasks are repeated in every cycle. The belief is that if you perform an action in the current cycle now, you will be more likely to perform this particular action again in the next cycle. But if you do not perform it now, you will be less likely to perform it in the next cycle.”*

Study participants in the “linear orientation” condition were instructed:

*“This idea acknowledges that our lives consist of separate and progressive time periods, that is, events are over once they are in the past, just like childhood, adolescence, and adulthood. In this orientation, the individual sees the future as a road that stretches forward and onward from the present. Therefore, completing important tasks involves thinking about the future, and so the person tries to choose benchmarks or goals for each time period so that discrete actions can be performed to reach towards them. The belief is that if you perform an action now, you will be in a better position for the future. But if you do not perform the action now, progress will be slowed and you will need to catch up in the future.”*

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<sup>2</sup> In all studies, we only included participants who were employed (part-time or full-time) reasoning that at least some regular income is necessary to be able to save money.

After completing the essay, participants indicated how much money they would save<sup>3</sup> next month, and the percentage of their annual income they would save next year.

## Results and Discussion

Those in the cyclical orientation condition provided marginally higher savings estimates for next month ( $M_{\text{Cyclical}} = \$174.8$  vs.  $M_{\text{Linear}} = \$118.6$ ,  $F(1, 155) = 3.53$ ,  $p = .06$ ,  $d = .31$ ) and indicated they would save more of their income next year ( $M_{\text{Cyclical}} = 11.8\%$  vs.  $M_{\text{Linear}} = 6.6\%$ ,  $F(1, 152) = 3.83$ ,  $p = .05$ ,  $d = .31$ ) when compared to those in the linear orientation condition. These data indicate that as expected, thinking in cyclical (vs. linear) terms leads to higher savings estimates.

### Study 2: Cyclical vs. Linear Savings Methods and Saving Money

#### Method

145 adult commuter students (62% female,  $M = 26.5$  years, age range = 19-53 years) participated in this two-phase study for course credit. In the first phase, participants were randomly assigned to the cyclical savings method ( $N = 44$ ), the linear savings method ( $N = 53$ ), or the control group ( $N = 48$ ). The instructions used concerned the savings task specifically:

#### ***Cyclical savings method instructions:***

*“This approach acknowledges that one’s life consists of many small and large cycles, that is, events that repeat themselves. We want you to think of the personal savings task as one part of such a cyclical life. Make your savings task a routinized one: just focus on saving the amount that you want to save now, not next month, not next year. Think about whether you saved enough money during your last paycheck cycle. If you saved as much as you wanted, continue with your persistence. If you did not save enough, make it up this time, with the current paycheck cycle.*

*The future will be exactly like the present: if you save money now, you will save in the next pay period. If you don’t save money during the present pay cycle, it is likely you won’t save money in the next cycle. We want you to focus on your personal savings in the present, and that is all. What’s more, at the end of the day, you will be able to look back and see how much personal savings you have achieved.”*

#### ***Linear savings method instructions:***

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<sup>3</sup> The specific question was: “In the next [time period], how much money will you put into your personal savings (including savings account, checking account, retirement, cash, etc.)?” in all three studies.

*“This approach acknowledges that one’s life is made of separate and progressive time compartments such as the past, present, and future. We want you to think of the personal savings task as part of such a linear progress. Make your saving task a planned one: just focus on the total amount of your savings goal for the future. Think about discrete savings tasks and do each task one at a time. Do not think about what you have or have not saved in the past. The past is already past.*

*The future will be a road that stretches forward and onward from the present. If you save money now, you will be in a much better position in the future, and this better future state forms the basic idea of progress. Saving money is not an action that is the end goal, but rather a means to the more important goal of attaining something which lies in the future, such as your retirement or a better life in general.”*

Participants were then told to use the savings method as their personal savings approach for the next two weeks. Control group participants received no specific instructions. Everyone indicated how much money they would save in this time, answered a manipulation check measure, and provided their demographics (gender, age, household income, and whether employed full-time or part-time) and degree of past saving success using a 1-7 scale. Finally, they were asked to keep track of their savings and informed they would be contacted in two weeks.

In a short online survey two weeks later, they reported how much money they had saved and the extent to which they applied the savings method explained to them. Finally, they were thanked for participating and debriefed.

## **Results**

Indicating the manipulation’s success, cyclical condition participants described their savings method as cyclical rather than linear to a greater degree ( $M_{\text{cyclical}} = 2.82$  vs.  $M_{\text{linear}} = 4.96$ ,  $t(95) = 6.25$ ,  $p < .001$ ). As predicted, participants in the cyclical condition provided a higher estimate than those in the linear condition after controlling for demographics and past saving success ( $M_{\text{cyclical}} = \$223$  vs.  $M_{\text{linear}} = \$140$ ,  $F(1, 137) = 3.99$ ,  $p < .05$ ,  $d = .40$ ). Estimates in the control condition ( $M_{\text{control}} = \$133$ ) were no different than the linear condition ( $F(1, 137) = 0.03$ ,  $p > .86$ ,  $d = .04$ ), and lower than the cyclical condition ( $F(1, 137) = 4.58$ ,  $p < .05$ ,  $d = .42$ ) (see Fig. 1).

Two weeks later, those using the cyclical method had saved more money ( $M_{\text{cyclical}} = \$216$

vs.  $M_{\text{linear}} = \$118$ ,  $F(1,137) = 5.17$ ,  $p < .05$ ,  $d = .44$ ). Control participants ( $M_{\text{control}} = \$81$ ) saved less money than the cyclical group ( $F(1,137) = 9.72$ ,  $p < .01$ ,  $d = .67$ ), and about the same amount as the linear group ( $F(1,137) = 1.23$ ,  $p > .26$ , Cohen's  $d = .25$ ). The money saved in both the cyclical and the linear groups was in line with earlier estimates ( $ts < 1$ ,  $ps > .53$ ), but in the control group, participants saved much less than they had estimated ( $t = 2.65$ ,  $p < .05$ ).

## **Discussion**

Participants employing the cyclical savings method provided a 70% higher estimate for how much money they would save in the next two weeks and reported saving 82% more money during this period when compared to those who used the linear savings method. The insignificant difference in saving estimates between linear and control groups suggests that the linear savings method may resemble the approach they use without any intervention.

### **Study 3: The Mediating Effects of Implementation Planning and Future Optimism**

In this study, we examined the mediating roles of implementation planning and future optimism on savings estimates provided under the cyclical and linear savings methods. We hypothesized that cyclical saving will encourage the individual to save money—through greater planning and less future optimism—in the near future, whereas the linear method will lead to a deferral of saving, inflating the savings estimate for the distant future, but dampening the estimate provided for the near future (Sheppard, Ouellette, & Fernandez, 1996).

## **Method**

162 employed adult commuter students (67% female,  $M = 27.3$  years, age range = 19-56 years) participated in the study for course credit. Participants were randomly assigned to either a cyclical ( $N = 81$ ) or a linear savings method condition ( $N = 81$ ). They read the same instructions as Study 2 and provided estimates of how much money they would save during two time periods: (1) next month, and (2) a future month (the same month next year). We asked savings estimates for the same month one year apart to keep duration constant, yet avoid seasonal variations in income or expenses from influencing estimates. Finally, participants completed measures of implementation planning, future optimism, demographics, and past saving success.

## Measures

Implementation planning was measured with four items using 7-point strongly disagree-strongly agree scales: (1) I feel like I know exactly what I have to do to reach the savings goal that I indicated above; (2) I have a detailed plan for saving the money that I indicated; (3) The benefits of saving the amount indicated are clear in my mind; and (4) I have a good idea of the things I need to do to reach this savings goal.

Future optimism was assessed with similar scales using the following four items: (1) I will probably have more money to spend in the future than I have now; (2) In the future, my income flow will be a lot higher than it is now; (3) I feel optimistic that I will be able to save more in the future in comparison to what I can save now; and (4) I will be able to control my spending more in the future than I do now.

Reliabilities for both scales were adequate, .75 for implementation planning and .81 for future optimism, and the respective item averages were used for the analysis.

## Results

A 2 (savings method: cyclical vs. linear) X 2 (time period: next month vs. future month) within-subjects ANOVA found a significant main effect of savings method ( $F(1,315^4) = 5.96, p < .05$ ) and a significant two-way interaction between savings method and time period ( $F(1,315) = 10.37, p < .01$ ), after controlling for demographics and past saving success. Participants using the cyclical method provided a higher estimate for the next month than linear method savers ( $M_{\text{cyclical}} = \$409$  vs.  $M_{\text{linear}} = \$256, F(1,315) = 4.52, p < .05$ , Cohen's  $d = .27$ ), however, they provided a lower estimate for the future month ( $M_{\text{cyclical}} = \$372$  vs.  $M_{\text{linear}} = \$530, F(1,315) = 4.84, p < .05$ , Cohen's  $d = -.37$ ). The saving estimates for next month and future month did not differ for cyclical method savers ( $F(1,315) = 0.30, p > .58$ ), but buoyed by optimism (see below), the future month estimate was much higher for linear method savers than the next month's

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<sup>4</sup> For this calculation, there are two data points for each participant corresponding to savings estimates for next month and for future month. The  $df=315$  is calculated as:  $(162 \times 2) - 1$  (for intercept)  $- 3$  (for main and interaction effects)  $- 4$  (for demographics: gender, age, income, and part-time vs. full-time employed)  $- 1$  (for past saving success).

estimates ( $M_{\text{next month}} = \$256$  vs.  $M_{\text{future month}} = \$530$ ,  $F(1,315) = 16.03$ ,  $p < .001$ ) (see Fig. 2).

Linear method savers were more optimistic ( $M_{\text{cyclical}} = 5.08$  vs.  $M_{\text{linear}} = 5.43$ ,  $F(1,155) = 4.08$ ,  $p < .05$ ), but reported lower implementation planning ( $M_{\text{cyclical}} = 5.65$  vs.  $M_{\text{linear}} = 5.25$ ,  $F(1,155) = 4.77$ ,  $p < .05$ ) than cyclical method savers.

**The mediating effects of implementation planning and future optimism on the savings method—savings estimate relationship.** To evaluate the two mediators jointly, we followed the Zhao, Lynch, and Chen (2010) approach, conducting a single bootstrap test of the indirect (mediated) effect. The estimated mediated effect represents the multiplicative product of the paths from the savings method to the mediator (implementation planning and future optimism) and from the mediator to the savings estimate (see Preacher & Hayes, 2008, for details).

**Mediating effects on next month's savings estimates.** The direct effect of the savings method on next month's savings estimate was significant ( $b = -127.42$ ,  $p = .033$ ); holding implementation planning and future optimism constant, the cyclical (relative to the linear) savings method increased the next month's savings estimate by \$127.42.

The indirect effect for implementation planning from the bootstrap analysis with 5,000 resamples was significant ( $-37.24$ , 95% confidence interval (CI):  $[-93.79, -7.93]$ ). Using the linear (relative to the cyclical) method reduced implementation planning by .40 units on the 1-7 scale; holding the savings method constant, a unit increase in implementation planning increased next month's savings estimates by \$94.12.

For future optimism, the mean indirect effect was significant ( $+16.46$ , 95% CI:  $[1.76, 52.58]$ ). The linear (relative to the cyclical) method increased future optimism by .34 units on the 1-7 scale; holding the savings method constant, a unit increase in future optimism increased next month's savings estimate by \$48.08.

From these results, we concluded that the two mediators, implementation planning and future optimism, partially mediate effects of the savings method on savings estimates, and their effects are opposite in direction relative to each other: implementation planning complements

(works in the same direction as) the direct effects of the cyclical (vs. linear) savings method on next month's savings estimates, and future optimism operates in opposition to it.

## **Discussion**

These findings provide insight into the process, supporting the explanation that the cyclical savings method encourages the individual to save money right away, producing a mindset—through greater implementation planning and lower future optimism—supporting this objective. In contrast, the linear savings method encourages deferral of the savings task to the future, inflating savings predictions in the distant future, but dampening current saving. While most people may not think about how much they will save during specific future periods, this study demonstrated the distinction between saving now and saving in the future and the fact that these two decisions are unique and affected by implementation planning and future optimism. Practically, people can make savings decisions at any time, and we surmise that deferral under the linear savings method may continue unabated as the person's distant future becomes the near future and eventually the present.

### **General Discussion**

Drawing upon the culturally-based distinctions between linear and cyclical time orientations (Bergadaa, 1990; Caillois & McKeon, 1963; Graham, 1981; van Geert, 2006), we developed and examined the roles of savings methods based on these orientations in affecting decision makers' estimates of how much money they will save and their actual savings. Employing a savings method based on a cyclical time orientation that emphasized the cyclical and routinized nature of the savings task and fostered a present focus led to higher savings estimates than using a savings method based on a linear time orientation which highlighted linear progress and orientated the individual towards the future as many conventional, popular methods are wont to recommend. The findings also illustrate that the diagnostic significance of current savings behavior is more motivating than its causal significance.

The conceptual distinction between the cyclical and linear time orientations encompasses a number of potentially meaningful differences reflected in our savings method instructions: a) a

greater present orientation vs. future orientation in the cyclical vs. linear orientation, b) concrete vs. abstract implementation planning, c) diagnostic vs. causal significance, and d) a greater vs. lesser emphasis on action under recurrent conditions. To begin considering which differences contribute to the effects we found, we conducted a study to explore whether a present versus future orientation is sufficient to produce the effects on savings estimates we observed in the studies reported here. Forty-four employed students were assigned to either the present or the future orientation conditions and were given instructions prefaced in the same way as the studies reported in the paper, but concerning “present-oriented” or “future-oriented” savings approaches. Results of a one-way ANOVA revealed that participants in two conditions were not different from each other ( $F(1, 42) = .18, p > .37$ , Cohen’s  $d = .13$ ). While this finding tentatively suggests the present versus future orientation is not the key on its own, future research should tease out which factor or (more likely) combination of factors described above are critical for the observed differences between cyclical and linear primes.

Recently, Hershfield and colleagues have shown that linking one’s future and present selves, with age-progressed renderings (Hershfield et al., 2011) or by appealing to the person’s sense of social responsibility to his or her future self (Bryan & Hershfield, 2012) can increase savings. Our findings build upon this line of work by suggesting that linking one’s present to one’s future in more general terms through instructions contained in the cyclical savings method can work in the same way. Our results are also consistent with Ülkümen and Cheema’s (2011) recent finding that when consumers do not have a specific savings goal, focusing on how to save (i.e., forming an implementation plan) leads to greater savings. However, a key difference was that these authors framed savings estimates as specific goals influencing other outcomes such as anticipated success at saving money, whereas savings estimates constituted a key dependent variable in our studies.

Not only are our findings regarding the efficacy of the cyclical savings method practically important, but they also open the door to promising research opportunities. As van Geert (2006) has noted, “Cycles abound in the cultural organization of our lives” (p. 493). In

routinizing the savings task, our instructions implicitly relied on the formalized paycheck cycle that is the norm in the United States; however, irregular windfalls such as receiving a performance bonus or an inheritance offer significant opportunities to augment one's savings over and above regular savings (Thaler, 1990). How to get people to save (vs. spend) more of their irregular earnings should be studied by future research, as this is likely to significantly impact overall savings (Thaler & Benartzi, 2004).

To conclude, the present research offers a practical yet theory-based method that can be easily implemented by personal finance counselors and by practitioners such as administrators of retirement plans to get individuals to save more money. For instance, upon meeting with a retirement plan administrator to sign up for the employer's retirement plan benefits, a key decision that new employees must make is what percentage of their paycheck to save. Our results clearly imply that providing the cyclical savings method instructions is likely to increase the savings rate chosen, and as prior research has shown, such decisions can have long-lasting impacts once made (Thaler & Benartzi, 2004). A cyclical savings approach could also be used by parents and teachers in the economic socialization of children to inculcate desirable savings habits.

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Figure 1

*Savings Estimates and Savings by Savings Method Condition, Study 2*

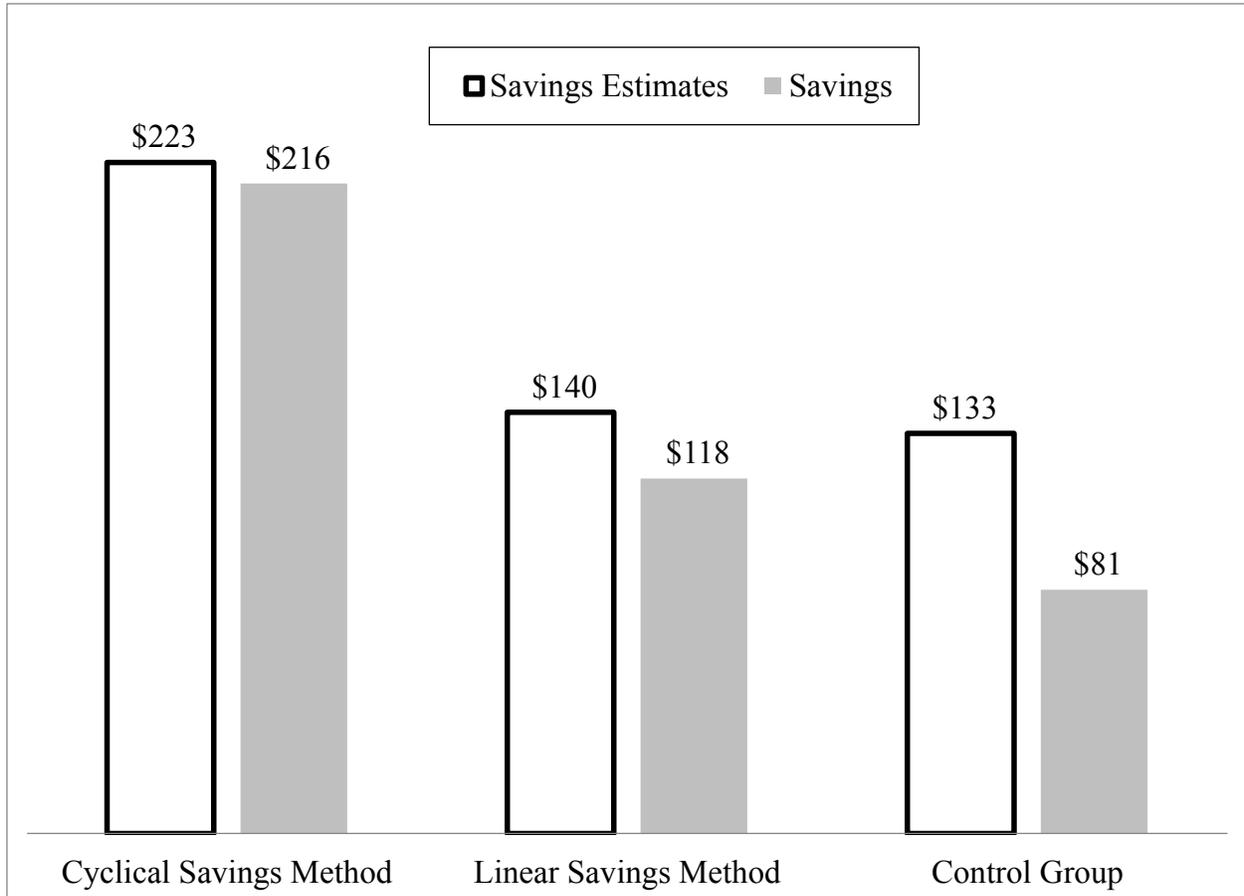


Figure 2.

*Savings Estimates for Next Month and Future Month for Cyclical and Linear Savings Methods, Study 3*

