
To Contribute, to Save, or to Invest for Retirement?

Motivating people to prepare for retirement may need a tailored approach

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Introduction

Although words have official definitions in the dictionary, they may mean very different things to different people. Indeed, researchers have long documented that the presentation of a question can affect our response to it—something called the "framing effect" (Cornelissen & Werner, 2014). As a simple example, let's say we are shopping around for a stock and find a worthy contender. Would you feel more comfortable buying this stock if you knew it had a 25% chance of getting a good return or if you knew it had a 75% chance of failing to yield a good return? Mathematically, the chance of a good return is identical. Yet, our responses to these two questions would likely be different—we'd likely be more open to the stock that yields a 25% chance of a good return than a 75% chance of failing to get a good return, simply because our attention is focused on the good return (after all, we generally like gains and dislike losses).

The behavioral finance literature is replete with studies showing how framing can influence investing (Steiger & Kühberger, 2018). In this research, I wondered whether framing effects could extend to retirement preparation. Indeed, we can see a wide variety of language used in the retirement literature. By putting money into their retirement account each pay cycle, some are perhaps *saving* for retirement, while others may be *investing* in their retirement, and still others may be *contributing* to their retirement fund. At face value, all three terms reflect the same phenomenon: amassing resources during one's working years on which to comfortably retire down the line. Yet, our emotional reactions to these words may differ, thereby affecting how we may prepare for our financial future. In this report, I present data from three experiments that framed retirement using these three lenses and assessed people's evaluation of the frame to see whether the frames have any direct or indirect effects on indexes of retirement preparation.

Key Takeaways

- ▶ Retirement preparation did not vary directly because of the framing.
 - ▶ People who possessed a retirement account were generally more apt to prepare for retirement.
 - ▶ Optimism in the ability to retire successfully was positively related to retirement preparation.
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The Research

In three experiments, I examined the effect of different ways of framing the act of preparing for retirement: as *saving*, as *investing*, or as *contributing*. In the first two studies, participants read one of three descriptions of retirement preparation, per random assignment, and subsequently answered a series of questions assessing attitudinal and behavioral indexes of retirement preparation (see Appendix A for the text used in each condition). In the last experiment, the retirement frame manipulation was embedded into a behavioral measure of retirement preparation.

In addition to framing effects, I examined effects that additional factors may play in retirement preparation decisions. Specifically, I examined the role that prior experience with retirement preparation (indicated by whether one owns a retirement account) and optimism about retiring successfully played in preparation for retirement. All statistical analyses reported below contain age and income as control variables.

Experiment 1

The first experiment served as a basic test of potential framing effects. Because the frame itself was embedded into a larger description of strategies for retirement preparation, I assessed people's perceptions of the passage via the question: *How would you rate the quality of the advice provided in the paragraph you just read?* This item was measured using the scale 0 = Inferior advice; 6 = Superior advice. The purpose of including this variable was to explore whether any framing effects translate to retirement preparation via measurable psychological changes.

Participants

Of the original 709 U.S. residents recruited from the online crowdsourcing platform MTurk, I removed one for not completing the survey in its entirety, 16 for reporting that their answers should not be analyzed¹, nine for failing an attention check², and 60 for being either retired (n = 10) or unemployed/student (n = 46) or for not providing a response to this measure (n = 4). The final sample size was thus 623 (median age = 34; 43.4% female).

Dependent Measures

There were two dependent variables in this experiment. The first measure was Binswanger and Carman's (2012) spending preferences task. Participants selected one of six options that best reflected their preferred spending levels before versus after retirement. At one end of the scale, reflecting the least amount of retirement preparation, is the preference to spend \$2,950 per month during one's working life while spending \$1,900 during retirement. The option that reflects the highest level of retirement preparation is the preference to spend \$2,600 per month during one's working life while spending \$3,600 in retirement.

¹ Based on a yes-no response to the question: "Realistically, we understand that people may not always be completely honest in their responses to surveys. Honesty in responses is very important to us because it allows us to get a clear view of how people think, feel, and behave. Judging by how honest you think you were in your responses, should we keep your answers for our analyses? You'll be paid for your time either way."

² The attention check was an open-ended basic math problem: "What is two plus five?"

The second measure assessed whether the participants expected to increase, decrease, or keep the same the amount of money they deposit into their retirement accounts—because only a small subset of participants ($n = 29$) reported planning to decrease their retirement deposits, I excluded them from analyses of this variable (this variable is therefore binary, coded 1 = plan on increasing one's retirement deposit; 0 = plan on keeping one's retirement deposit the same).

Results

A one-way analysis of variance, or ANOVA, in which the experimental condition predicted perceptions of the message revealed a small effect, $F(2, 618) = 4.76$, partial $\omega^2 = 0.01$. A post-hoc analysis with Šidák corrections showed that, despite being largely receptive to all messages (as all of the marginal means were above midpoint), people believed that the *investing* frame ($M = 4.47$, $SE = 0.07$) did not provide as good of advice as did the *saving* ($M = 4.72$, $SE = 0.07$; $g = 0.26$) and *contributing* ($M = 4.71$, $SE = 0.07$; $g = 0.25$) frames, which did not differ from one another ($g = 0.01$). Thus, the frame appeared to have affected people's perception of the message's quality. Additionally, the more helpful people found the message to be, the more they preferred to spend more *during* than *before* retirement ($r = 0.11$, $p = 0.0079$) and the more likely they were to *increase* their retirement deposit in the next month ($r = 0.16$, $p = 0.0001$). These tests serve as initial evidence that people perceive passages differently depending on how they are framed.

To test for framing effects on the spending preferences, I employed an analysis of covariance, or ANCOVA, in which the experimental condition was the independent variable—perceived quality of the message, age, and income served as controls. No effect of experimental condition emerged, $F(2, 611) = 0.34$, partial $\omega^2 < 0.001$, $p = 0.709$. Age and income were both unassociated with spending preferences, whereas perceived quality of the message continued to be a positive predictor, $F(1, 611) = 7.23$, partial $\omega^2 = 0.01$, $p = 0.007$. Mediation analyses using Preacher and Selig's (2012) Monte Carlo method revealed that the frames may indeed play a role in how people prepare for retirement indirectly—through their psychological reaction to the frame itself. That is, perceived advice quality served as an indirect effect behind the difference between the *contribute* and *invest* conditions (95% CI = 0.0055, 0.0927) as well as between the *save* and *invest* conditions (95% CI = 0.0057, 0.0952).

I used a logistic regression to examine whether the frame condition impacted intentions to increase one's retirement deposit in the next month (see Exhibit 1). Perceived quality of the message, age, and income again served as controls. The experimental condition was not associated with intentions to increase one's retirement deposit. Age was negatively associated with the intention to increase one's retirement deposit, whereas perceived quality of the message positively predicted the intention to increase one's retirement deposit in the next month. Mediation analyses revealed support for an indirect effect. Specifically, the perception of the passage again served as an indirect effect in the discrepancies between the *contribute* and *invest* (95% CI = 0.0044, 0.0402) conditions; and between the *save* and *invest* conditions (95% CI = 0.0046, 0.0411).

Exhibit 1. Logistic Regression Predicting if a Participant Intends to Increase a Retirement Deposit in the Next Month (Experiment 1)

Predictor	b	SE	OR	p
Contribute vs. Invest	0.23	0.23	1.25	0.3233
Contribute vs. Save	0.4	0.23	1.49	0.085
Invest vs. Save	-0.18	0.23	0.84	0.443
Passage perception	0.44	0.11	1.55	0.0001
Income	0.09	0.06	1.09	0.1409
Age	-0.02	0.01	0.98	0.0062

Note. OR = odds ratio. Passage perception = perceived quality of the message content.

Source: Morningstar Direct. Data as of 05/19/2021.

Brief Discussion

The results of the first experiment revealed that framing did not appear to have any direct impact on situational retirement preparation. That is not to say, however, that they played no impact whatsoever. Rather, the framing effect was indirect: It shaped people's perception of the passage being framed, which in turn influenced their retirement preparation decisions. An important limitation to this study, however, is that it did not assess previous experience with retirement preparation—as it is possible that perception of the passage may be contingent on how familiar one may be with retirement. In the second experiment, I address this issue by considering the effect of current retirement account ownership, which serves as a proxy for said experience with retirement planning.

Experiment 2

Participants

A total of 503 U.S. residents recruited from MTurk partook in this study. Of these, I removed 12 persons for reporting that their answers should not be analyzed, 10 for failing an attention check³, 75 for reporting to be either retired ($n = 23$) or unemployed/student ($n = 49$) or for failing to report their employment status ($n = 3$), and 98 for improperly completing the dependent measure⁴. The final sample size was 308 (median age = 34; 41% female; 63.8% with a retirement account).

Dependent Measures

The primary dependent measure was Hershfield et al.'s (2011) asset-allocation task. In this task, participants distribute a hypothetical \$1,000 between five categories: spending it on oneself, spending it on another, putting it into a savings account, using it to pay debt, and putting it into a retirement account. The more money one allocates to their retirement account, the more retirement preparation they are exhibiting.

³Using the open-ended mathematical question: "What is three plus four?"

⁴These are the participants whose total allocation exceeded the maximum of \$1,000.

The index of the perceived quality of the message was different in this experiment. Here, it was an average of two questions: *How much new information did you learn reading the passage?* (using the scale: 0 = None at all; 6 = A lot) and *How helpful do you think the passage is for someone planning their retirement?* (using the scale: 0 = Not at all helpful; 6 = Very helpful)⁵. The question *Do you currently have a retirement account (such as a 401(k), a 403(b), or an IRA)?* gauged whether a participant had a retirement account (coded 1 = yes; 0 = no).

Results

Unlike in Experiment 1, perceived quality of the message did not differ between conditions, $F(2, 303) = 0.12$, partial $\omega^2 < 0.001$, $p = 0.709$ ⁶. Still, a positive correlation between perceived quality of the message and the amount allocated to a retirement fund emerged ($r = 0.12$, $p = 0.031$). Thus, although the perception of the message did not vary as a function of the experimental condition, it still predicted retirement preparation and was thus included in the subsequent analyses.

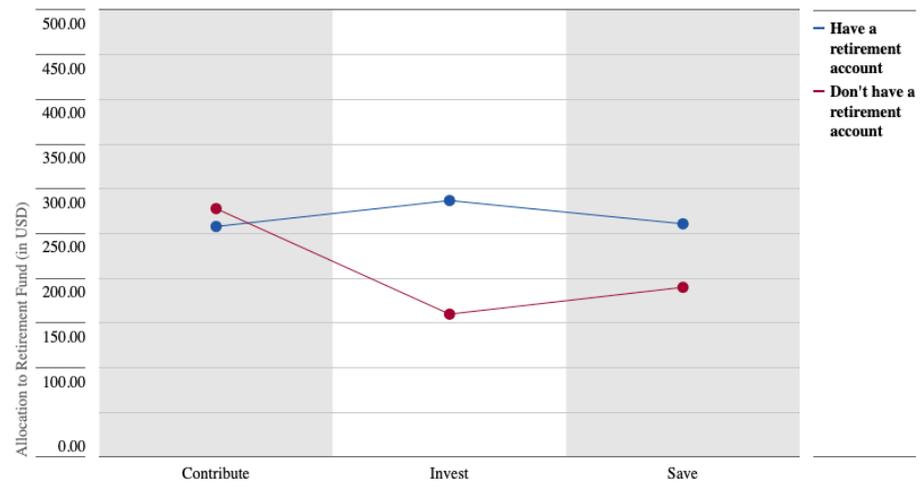
I employed an ANOVA to examine whether the experimental condition influenced allocation into a retirement fund. Included in this model (aside from the control variables: perception of message, age, income) was whether the participants possessed a retirement account and the interaction between experimental condition and retirement account ownership.

Although a main effect of experimental condition emerged, it was qualified by the interaction with ownership of a retirement account, $F(2, 293) = 3.13$, partial $\omega^2 = 0.014$, $p = 0.045$. Exhibit 2 displays the mean allocation across the three experimental conditions, separately for participants with and without a retirement account. The interaction effect revealed two patterns. First, the experimental condition did not influence retirement accountholders—but for nonholders, the *contribute* condition led to larger allocations to a retirement fund compared with the *invest* condition ($g = 0.54$, $p = 0.0386$). Second, retirement accountholders allocated more to a retirement fund than did nonholders in the *invest* condition ($g = 0.57$, $p = 0.0026$).

⁵ The correlation between these items was $r = 0.43$, $p < 0.0001$.

⁶ Including ownership of a retirement account and its interaction with experimental condition yielded no effects.

Exhibit 2. Differences in Money Allocated to a Retirement Fund Based on Experimental Condition and Ownership of a Retirement Account (Experiment 2)



Source: Morningstar Direct. Data as of May 19, 2021.

Brief Discussion

The second experiment again showed that the effect of the frame depends on the person receiving the message. In this investigation, the frame did not appear to impact the perceived quality of the message (although people continued to exhibit more retirement preparation if they found the message to be helpful). The novel contribution of this experiment is the interaction effect discovered between the experimental condition and ownership of a retirement account. This effect suggests that prior experience with retirement preparation may matter in how the frame influences retirement decisions. The *investing* frame diverted nonowners (of retirement accounts) from putting money into a retirement fund. Conversely, owners (of retirement accounts) were more inclined than were nonowners to put some money into a retirement fund if it was framed as *investing*. The discrepancies between owners and nonowners hint at a motivational factor to retirement preparation. Thus, in the final experiment, I examine the additional role of optimism (pertaining to retirement), an important component of goal pursuit (Carver & Scheier, 2014) on retirement preparation.

Experiment 3

The final experiment used a different methodology to examine potential framing effects. In this study, the manipulation was embedded within the asset-allocation task used in Experiment 2. Specifically, the option to put some of the money into a retirement account was framed as either: *contribute* it to a retirement fund, *save* it in a retirement fund, or *invest* it in a retirement fund. Participants saw one of these three options per random assignment. As in Experiment 2, I measured ownership of a retirement account to explore its role in the index of retirement preparation used in this study.

This experiment extended the prior two investigations in another way. Specifically, I included a measure of optimism about retiring successfully. This was to gauge whether people may hesitate to save for retirement if their general outlook on it is bleak.

Participants

I recruited 498 U.S. residents from MTurk to participate in this study. Of these, I removed six who reported that their answers should not be analyzed, six for failing an attention check⁷, 49 for reporting to be either retired ($n = 7$) or unemployed/student ($n = 39$) or for failing to provide a response to this question ($n = 3$), and 36 for improperly completing the dependent measure. The final sample size was 401 (median age = 34; 41.3% female; 57.3% with a retirement account).

Dependent Measures

The dependent variable was the amount of money people allocated to that option. As in Experiment 2, I considered the interaction effect between ownership of a retirement account (the question that assessed retirement account ownership was identical to the one used in Experiment 2) and the experimental condition. Optimism about successfully retiring was measured via the question: *Currently, how optimistic/pessimistic are you about comfortably retiring in your future?* measured on the scale 0 = Completely pessimistic; 6 = Completely optimistic.

Results

Retirement optimism was associated positively with the amount one allocated to a retirement fund ($r = 0.22$, $p < 0.0001$)⁸; and retirement accountowners tended to have more retirement optimism than did nonowners, $t(324.12) = 5.50$, $g = 0.56$, $p < 0.0001$.

An ANCOVA revealed no main effects of experimental condition, ownership of a retirement account, or their interaction. Retirement optimism, however, yielded a positive effect on allocation, $F(1, 383) = 11.50$, partial $\omega^2 = 0.026$, $\beta = 0.18$, $p = 0.0008$. That is, regardless of the frame and ownership of a retirement account, the more optimistic one was about retiring successfully, the more one allocated into a retirement fund.

Brief Discussion

The third and final experiment added further complexity to the story of retirement preparation. In this study, the frame itself again did not appear to influence decisions on how much to allocate to a retirement fund. Rather, this study suggests that motivation plays a significant role. Specifically, retirement optimism predicted allocation above and beyond all other variables analyzed in this study. This finding suggests that motivation may matter more than does the frame of retirement preparation or even whether one *has* a retirement fund (and thus, at least some previous experience with retirement preparation).

⁷ The question was the open-ended math problem: "What is nine minus four?"

⁸ In an ANCOVA in which the experimental condition, ownership of a retirement account, their interaction, and the two control variables revealed only a single effect: The more income one reported to earn, the more retirement optimism they reported, $F(1, 384) = 33.70$, partial $\omega^2 = 0.077$, $\beta = 0.31$, $p < 0.0001$.

What Do These Experiments Teach Us?

The results of these three experiments paint a complex story: Kindling the spark to prepare for retirement requires more than just framing retirement preparation in an attractive way. The pattern of results discovered in these studies, however, allows us to draw several lessons for advisors helping prospective retirees and individual investors who may (or may not) be thinking about their retirement.

1. There is no “one size fits all” frame

Some frames work with some people some of the time. Experiment 1, for example, showed that frames affected retirement preparation indirectly, as people found the *invest* frame to be least helpful to them, despite all other parts of the text being equal to the *contribute* and the *save* conditions. Still, the second experiment showed that prior experience with retirement preparation (as indicated by ownership of a retirement account) appeared to make the *invest* frame more appealing. In other words, framing retirement preparation as an investment could both bolster and hinder retirement preparation! Indeed, the term “investment” itself may mean different things to different people. After all, *investing* inherently implies some risk (that is, potential for a low return), whereas *saving* or *contributing* may not. This means that advisors, especially those who help clients new to investing or retirement planning, could benefit from simply discussing what “investing” means to someone, especially if they have little to no experience with retirement preparation, and from considering how these psychological associations can affect our retirement planning.

2. Reception of advice matters

In the first two experiments, I consistently documented a positive relation between the perceived quality of the framed message about retirement preparation and retirement preparation, regardless of prior experience with retirement preparation. The lesson here is that it is important to focus on investors' subjective reception of each piece of advice, as the reception can determine whether they take the course of action to prepare for retirement.

3. Motivation moves

The last experiment showed that motivation may play a more important role in retirement preparation than any frame or prior experience with retirement planning. Optimism is a significant influence of intrinsic motivation (Carver & Scheier, 2014). In this study, optimism about retiring successfully accounted for about 2.6% of the variance in the index of retirement preparation (money allocated to a retirement fund). This means that even investors with current retirement savings have potential to fall “off the rail” if their optimism about the end goal (successful retirement) is low. It is thus important to consistently monitor one's optimism about retirement to stay the course to a successful future. ■■■

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Appendix A. Experimental Manipulation

Invest Frame

When people invest their money, they place some of their immediate money in a financial account to accrue profit in their future. Although people can invest their money in many things, one of the most important things we invest in is our retirement. Once people retire, their income decreases, but some of their expenses, such as healthcare, may increase. Thus, it is important to invest some of your money now in order to maximize your well-being in retirement.

Some of the steps you can take to successfully invest in your retirement include:

- a) Invest in your retirement as early as you can.
- b) At a minimum, invest the amount of your salary that your employer will match.
- c) Increase the amount of money you invest in your retirement fund with each raise.
- d) Keep your future goals in mind as you invest in your retirement.

Many people put a lot of effort in investing in their retirement. There are a number of financial challenges that can get in the way of investing in your retirement. Taking these steps to invest in your retirement puts you on the path to a successful future.

Saving Frame

When people save their money, they place some of their immediate money in a financial account and withdraw it in their future. Although people can save their money for many things, one of the most important things we save for is our retirement. Once people retire, their income decreases, but some of their expenses, such as healthcare, may increase. Thus, it is important to save some of your money now in order to maximize your well-being in retirement.

Some of the steps you can take to successfully save for your retirement include:

- a) Save for your retirement as early as you can.
- b) At a minimum, save the amount of your salary that your employer will match.
- c) Increase the amount of money you save in your retirement fund with each raise.
- d) Keep your future goals in mind as you save for your retirement.

Many people put a lot of effort in saving for their retirement. There are a number of financial challenges that can get in the way of saving for your retirement. Taking these steps to save for your retirement puts you on the path to a successful future.

Contribute Frame

When people contribute their money to a personal fund, they place some of their immediate money in a financial account to use it in the future. Although people can contribute their money to many things, one of the most important contributions we make is to our retirement. Once people retire, their income decreases, but some of their expenses, such as healthcare, may increase. Thus, it is important to contribute some of your money now in order to maximize your well-being in retirement.

Some of the steps you can take to successfully contribute to your retirement include:

- a) Contribute to your retirement as early as you can.
- b) At a minimum, contribute the amount of your salary that your employer will match.
- c) Increase the amount of money you contribute to your retirement fund with each raise.
- d) Keep your future goals in mind as you contribute to your retirement.

Many people put a lot of effort in contributing to their retirement. There are a number of financial challenges that can get in the way of contributing to your retirement. Taking these steps to contribute to your retirement puts you on the path to a successful future.