

# Goals-Based Financial Planning: How Simple Lists Can Overcome Cognitive Blind Spots

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**IDENTIFYING INVESTMENT GOALS** is a critical step in developing a sound financial plan that helps investors reach their objectives. Studies have found that using a goals-based framework in financial planning can lead to an increase in wealth for investors (Blanchett 2015) and has the potential to strengthen planner-client

## Executive Summary

- Prior research has shown that behavioral biases may inhibit investors from identifying and prioritizing investing goals that are important to them.
- A nationally representative study was conducted to understand if a simple behavioral technique would nudge investors away from using unreliable, top-of-mind notions when it comes to creating investing goals; and if a more sophisticated technique is better at prioritizing investment goals than a simple one.
- Asking people to self-report their investing goals is insufficient. About 26 percent of the participants in the study changed their top goal when prompted with reminders about other goals.
- On average, using a more sophisticated ranking technique did not lead to any appreciable difference in how investment goals were ranked, suggesting that when it comes to prioritizing multiple goals, a straightforward rank ordering suffices.

relationships.<sup>1</sup> As such, more planning professionals are practicing goals-based or goals-centric financial planning (Lee, Anderson, and Kitces 2015).

The success of goals-based planning hinges upon two important steps: (1) eliciting goals that are most important to investors; and (2) prioritizing those goals. Yet, behavioral biases may manifest and undermine the efficacy of goal-based financial planning.

Dual process theory (Stanovich and West 2000; Kahneman 2011) suggests that due to cognitive limitations, people often exhibit behavioral biases when it comes to decision-making. Although a wealth of research has documented how behavioral biases negatively impact financial decision-making broadly, comparatively less research has been conducted

to understand how behavioral biases may affect goals-based financial planning. Are behavioral biases at play within the domain of goals-based financial planning, particularly in relation to goal elicitation and prioritization? What are some evidence-based tools financial planners can implement to help their clients overcome them?

This research comprises two studies. Study 1 proposes and presents the results of offering participants a worksheet—the master list—that planners may use to improve the goal-elicitation process. This master list differs from previous research on worksheets to better elicit goals (Diliberto 2006; Briaud 2002) in a few ways. First, the master list used in Study 1 draws from the behavioral science literature to specifically focus on

overcoming top-of-mind responses when it comes to goal elicitation. Second, this study used a nationally representative sample to evaluate the effectiveness of the master list as an intervention, thus enabling the results to be generalized to the U.S. population. Study 2 addresses goal prioritization by experimentally comparing two different techniques—a topic that has not been examined within financial decision-making.

### Dual Process Theory: From Documenting Biases to Overcoming Them

Dual process theory suggests that the mind is comprised of two distinct, yet interrelated sets of processes—one fast and intuitive, yet susceptible to systematic bias; and the other slow and deliberative, but can be cognitively taxing to evoke constantly (referred to as “system 1” and “system 2,” respectively) (Stanovich and West 2000; Kahneman 2011).

When making decisions under suboptimal conditions—such as when lacking pertinent information, or with a failure to pay attention to key information and time constraints—people often rely on system 1 thinking. For example, when in a rush or unsure which carton of milk to buy, people often rely on brand awareness or past purchases to make their milk-purchasing decisions. Studies show that people often rely on system 1 thinking when it comes to financial decision-making, making them susceptible to behavioral mistakes such as panic selling during market corrections or overconfidence during market upswings (Odean 1999; Kahneman 2011; Crosby 2018).

Most previous research tended to focus on uncovering the cognitive mechanisms under which biases occur, and a notable example is Kahneman’s (2011) *Thinking Fast and Slow*. Understanding how biases come into play is important, no doubt. However, a separate body of research in the literature moves beyond documenting biases to proposing and evaluating techniques and tools to help people

overcome common behavioral biases (Milkman, Minson, and Volpp 2014; Milkman, Chugh, and Bazerman 2009; Bond, Carlson, and Keeney 2010; Thaler and Sunstein 2008; Benartzi and Lewin 2015; Morewedge et al. 2015).

For example, Slovic and Fischhoff (1977) found that providing evidence contrary to the actual outcome helped people activate system 2 thinking, which in turn, reduced hindsight bias. This study aligns with the objectives of Slovic and Fischhoff and others like them to tilt the literature toward developing evidence-based techniques that are actionable to help people overcome biases in decision-making. Studies 1 and 2 each focused on two aspects of goals-based financial planning—goal elicitation and goal prioritization, respectively—and provided results on techniques that financial planners may use to help their clients overcome behavioral biases.

### Methodology

Using an online platform, an original survey (“Investment Goals,” UAS 150) was designed and fielded as part of University of Southern California’s Understanding America Study (UAS) from Sept. 6, 2018 to Sept. 26, 2018. Using address-based sampling to recruit participants, UAS maintains a nationally representative sample of about 6,000 American households.<sup>2</sup> This survey was administered to 1,599 non-retired individuals aged 18 and older and received completed surveys from 1,250 participants (a 78 percent response rate). This sample was then randomized into three arms. The first arm ( $n = 409$ ) examined the effectiveness of the master list (Study 1). The remaining two arms ( $n = 424$ ,  $n = 417$ ) experimentally tested two different goal prioritization techniques (Study 2).

### Study 1: Thinking Blind Spots in Goal Elicitation

People are more committed to achieve their goals if the goals are personalized,

important to them, and well specified or accurate (Locke and Latham 1990). Yet, when it comes to eliciting goals, studies have shown that when individuals are left to their own devices they often fail to identify a substantial number of key objectives—as many as half of the objectives—that they later recognize to be highly important (Bond, Carlson, and Keeney 2008; Keeney 2013; Siebert and Keeney 2015).

Part of the reason why people are unable to independently identify important goals (what Benartzi and Lewin (2015) called a “thinking blind spot”) is because of the reliance on system 1 thinking—people’s cognitive processes are limited in both breadth and depth (Bond, Carlson, and Keeney 2010); and because of the tendency to rely on suboptimal heuristics such as the availability bias (Kahneman 2011). In other words, just asking a person to generate a list of their objectives (e.g., investment goals) without any prompts or help, may not be adequate to elicit the objectives that are really important to that person, because he or she may provide top-of-mind responses.

A solution may be to use a carefully curated list of common objectives. Previous research referred to this general list of goals as a “master list” (Bond, Carlson, and Keeney 2008, 2010). Benartzi and Lewin (2015) worked with individuals and financial advisers to create a master list of 12 typical retirement goals that included financial independence, health care, housing, travel and leisure, lifestyle, and so on.<sup>3</sup>

Although previous studies in other fields found some evidence of the efficacy of using a master list to improve preference elicitation across a variety of areas (e.g., selection of MBA programs, identifying organizational goals), using such a list has not been tested in financial decision-making. In particular, the effect of using a master list to help people recall investment goals that are

**Table 1: Master List of Investment Goals**

1	To be better off than my peers
2	To pay for personal self-improvement (e.g., go back to school, learn a skill)
3	To experience the excitement of investing
4	To start a new business
5	To buy a house
6	To help pay for my kids' college education
7	To stop working and do something I love
8	To go on a dream vacation
9	To relocate in retirement
10	To care for my aging parents
11	To give to charity or other causes I care about
12	To feel secure about my finances in retirement
13	To feel secure about my finances now
14	To leave an inheritance to my loved ones
15	To retire early
16	To pay for future medical expenses
17	To not be a financial burden to my family as I grow older

truly important to them has not been systematically explored.

The goals in the master list used for this study (see Table 1) were curated by integrating research from previous studies into investing goals<sup>4</sup> (Fisher and Montalto 2010) to ensure that the list was inclusive of both financial goals (to pay for future medical expenses) and non-financial goals (to improve my social status); and, short-term goals (to go on a dream vacation) as well as long-term objectives (to maintain my standard of living in retirement).

Also, because previous research<sup>5</sup> has suggested that retirement is a top objective for a majority of people, three different types of retirement-related goals were included to identify what this goal specifically means to different people.<sup>6</sup> This master list was reviewed by FINRA and is available for download at [morningstar.com/lp/mining-for-goals](http://morningstar.com/lp/mining-for-goals).

### Study 1 Methodology

Exactly 409 non-retired Americans aged 18 and older completed Study 1. Twenty-five percent ( $n = 102$ ) were removed from the analysis because they did not complete the survey, they took too long to complete the survey,<sup>7</sup> or they did not engage with the survey in a serious fashion (e.g., they listed “brainstorm”

as their top investing goal). The results reported below are from the remaining sample of 307 people.<sup>8</sup>

Participants were asked to complete two sequential tasks in an online survey. First, they listed and ranked their top three investment goals. Second, these self-generated goals for each participant were added, in a random order, to a master list of common investment goals to create a combined investment list. After viewing this combined investment list, participants were then asked to rank all of the investment goals in the order of importance to them (Figure 1 is a graphical representation of the methodology). The median time required to complete the task was 8.4 minutes.

The data was analyzed using the following steps. First, a keyword-based text processing algorithm was used to map the self-reported goals to those already on the master list and to group similar self-reported goals together. For example, those who wrote “travel” or “travel the world” as their self-reported goals were mapped to the existing master list goal of “to go on a dream vacation.” In addition, those who wrote “pay off debt,” “getting out of debt,” “live debt free,” among others, were grouped under the broad category “debt elimination”—a category that was not on the master list.

A residual category called “others” was created to group unique but uncommon goals together. Some examples of goals in this category include “happiness” and “leisure.” This automatic synonym aggregation procedure enabled the identification of self-reported goals that overlapped with the master list items and further analysis of the underlying meaning of the goals, rather than the idiosyncratic words themselves.

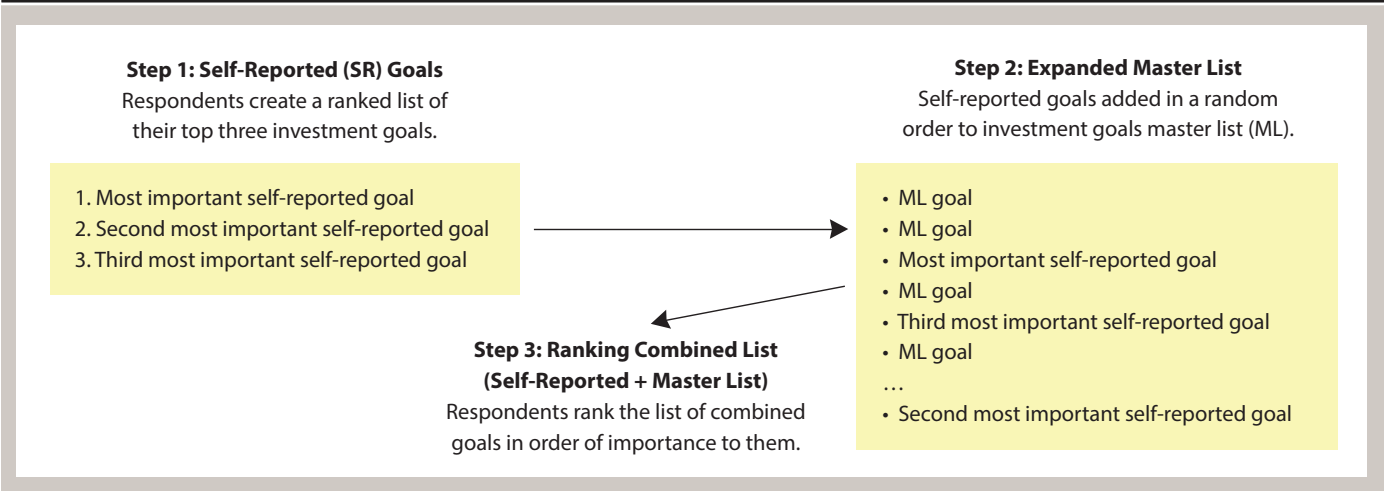
A participant may have listed “retirement” as their top investing goal, but, after looking at the master list, ranked “to feel secure about my finances in retirement” as their top investing goal—a goal found in the master list. Because both goals are similar, this participant, and those responding in a like manner, were regarded to be consistent in their choices, and, consequently, were unaffected by the master list. However, other participants may have reported “to buy a house” when initially generating their self-reported goal, and after considering the master list, reported that their top goal was “to feel secure about my finances in retirement.” In this example, the person exhibited a substantial change in what they said was their most important goal, and these instances illustrated the value of a master list in helping people discover what their main objectives really were.

Among those people who changed their top investing goal after seeing the master list, the patterns of how their reported goals changed were examined in this research. To ensure that the results could be generalized to the non-retired American, sample weights were included in the analysis, unless stated otherwise. Descriptive statistics on the sample are shown in Table 2.

### Study 1 Findings

**What are people’s self-reported top investing goals?** As mentioned earlier, participants were asked what their top three investment goals were. Looking at their top investment goal, the unweighted

**Figure 1: Outline of Study Procedure**



results suggest that, consistent with previous studies<sup>9</sup> “retirement” was the top investment goal—about three times more common than the next goal<sup>10</sup> (see Figure 2). After the monolith goals around retirement, the next top goals were to “buy a house,” and “to feel secure about my finances now.” This pattern, where “retirement” was the top priority goal, remained generally consistent across sociodemographic variables such as gender, income, race, and generational cohort, suggesting that for most people retirement is top of mind when it comes to understanding why they invest. A notable exception was that the top self-reported goal for those who had less than a high-school education, were unmarried, or were millennials was “buying a house.”<sup>11</sup>

**About 26 percent of respondents changed their top goal after seeing the master list.** After seeing the master list, how many participants ranked their top self-generated goal as their overall top-ranked goal? That is, if the master list did not help people identify goals that were important to them, then participants would continue to rank their top self-reported goal as their top investment goal, after seeing the master list. Out of 318 participants, 26 percent ( $n = 83$ ) changed their top-ranked top-of-mind investment goal when reminded of other options. The results also suggest that

**Table 2: Summary Statistics of Participants in Each Study**

	Study 1 (Goals)	Study 2 (MaxDiff)	Study 2 (Direct Ranking)
<b>Female</b>	0.44	0.49	0.47
<b>Median age</b>	38	41	44
<b>Race</b>			
<b>White only</b>	0.80	0.79	0.75
<b>Non-White</b>	0.20	0.21	0.25
<b>Education</b>			
<b>Less than high school</b>	0.08	0.03	0.07
<b>High school or GED</b>	0.31	0.35	0.30
<b>Some college or technical college</b>	0.27	0.30	0.31
<b>Four-year college</b>	0.24	0.21	0.17
<b>Post-graduate</b>	0.12	0.12	0.15
<b>Marital status</b>			
<b>Married</b>	0.61	0.57	0.55
<b>Separated/divorced/widowed</b>	0.14	0.18	0.18
<b>Never married</b>	0.25	0.25	0.27
<b>Household Income</b>			
<b>Less than \$60,000</b>	0.40	0.48	0.55
<b>\$60,000 to \$149,999</b>	0.25	0.24	0.21
<b>\$150,000 and higher</b>	0.35	0.29	0.24
<b>Investor*</b>	0.69	0.63	0.60
<b>N (weighted)</b>	318	380	358
<b>N (unweighted)</b>	307	367	362

Note: Calculations here use post-stratification weights and do not include participants who were dropped. \*Investors refer to those who directly hold investments, generally in brokerage accounts, but also includes those who invest in their workplace retirement plans.

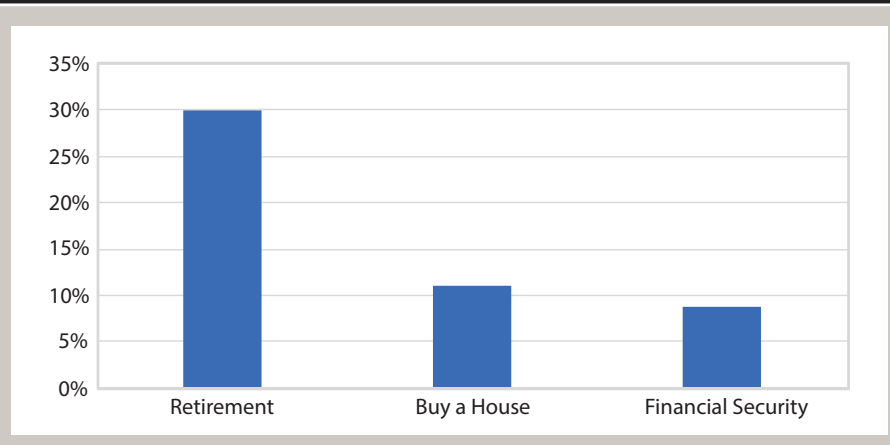
the more goals people have to prioritize (akin to a multi-goal context), the more effective the master list appears to be.

The cumulative proportion of participants whose top three investment goals were different than their initial, self-reported goals, after seeing the master list, is shown in Figure 3. In addition to the 26 percent of respondents previ-

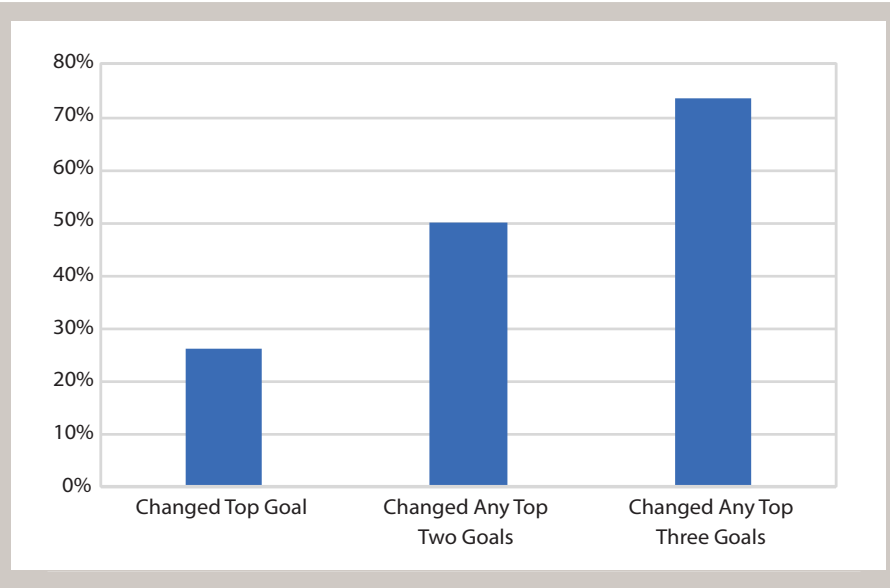
ously mentioned who changed their top priority goal, almost twice as many (50 percent) changed either one or both of their top two goals, and about 73 percent changed either one or more of their top three goals.

In fact, only 26 percent of participants did not change their top three goals after reviewing the master list,

**Figure 2: Top Three Self-Reported Investment Goals**



**Figure 3: Proportion of Participants Who Changed Their Top Goals After Seeing the Master List**



suggesting that the traditional goal-setting approach of asking people to generate goals on the spot may reflect goals that are merely top of mind, and not their top priority goals.

**How did the goals change after seeing the master list?** Next, this research examined the patterns of change. As a reminder, to assess the effectiveness of the master list, this study only considered those who made a meaningful change to their goals after seeing the master list. That is, if a participant’s self-reported top goal was “retirement,” and he or she selected “retire early” from the master list, he or she was considered not to be

impacted by the master list.

This study looked at the patterns of participants whose goals had a meaningful shift. First, what are the self-reported goals that people are switching away from? And second, what goals from the master list are people switching to, as they displace their top self-reported (top-of-mind) goals? Due to space constraints, the analyses presented here focuses on the top self-reported goal only. Because of an interest in understanding the patterns of change (not representativeness) and due to extremely small sample sizes, unweighted data were used for this part of the analysis.

The patterns of how top investing goals change are shown in Figure 4. The left column (labeled “Before”) shows what respondents reported as their top investment goals, and the right column (labeled “After”) shows how those top priority goals changed after seeing the master list. Here are some key takeaways.

First, the provision of a master list helped clarify a person’s previously ambiguous self-reported goals—about 27 percent changed their top goal from a general idea to a more specific one.<sup>12</sup> Consider the goal to “grow wealth,” for example. From a goals-based financial planning framework, it is unclear as to how this is to be achieved. Is it about consistently beating the market or amassing a certain amount of money upon retirement? Such vague goals require elaboration, which as the results reflect, the master list may help facilitate. Results showed that when presented with a master list, those who previously stated “grow wealth” as their top goal changed to reflect their underlying intent for wealth generation, and those motivations ranged from an increase in social status (“to be better off than my peers”) to financial security (“to feel secure about my finances now”).

Second, having the master list may serve as an opportunity to self-correct misconceptions about investment goals. Allocating money toward debt elimination versus investing are often thought of as trade-offs—should a person pay down debt first or invest for retirement? Using simulated data, Blanchett (2012) found that an investor may benefit about 62 basis points by paying off a credit card first before saving for retirement. In other words, long-term investing, with the explicit goal of paying down short-term debt, may not be a sensible approach. Yet, about 15 percent of respondents stated debt elimination as an investment goal. This study’s results showed that after seeing the master list of goals, about 27 percent of those

people who self-reported debt elimination as their top investing goal changed their top priority.

Third, this research found evidence that emotional returns are an important parallel to financial returns. In fact, about half of the revised top goals were about emotions. Among those who changed their goals, “to feel secure about my finances now,” was the most commonly chosen goal from the master list, followed by “to not be a financial burden to my family as I grow older.”

Even though behavioral science results can sometimes be interpreted to suggest that emotions are obstacles that should be eschewed (Ariely 2008; Bailey, Kumar, and Ng 2011; Kahneman 2011), the results of this study corresponded with an alternative line of research suggesting that emotions are—and should be considered—a critical part in constructive financial decision-making (Statman 2017; Zelizer and Dodd 2017). People do seek and value non-pecuniary results through investing, such as emotional security, and thus these aspirations should be evaluated, in tandem, alongside financial outcomes when considering overarching goals.

## Study 2: Thinking Blind Spots in Goal Prioritization

Overcoming thinking blind spots to identify important investment goals is only one part of goals-based financial planning. The second part is helping investors prioritize those goals.

Kitces (2014) pointed out that investing goals should be achievable, and in situations where resources are finite, financial planners may have to guide their clients through the prioritization process. To prioritize effectively, people need to know what their preferences are. However, research shows that people often are strangers to themselves and generally have a poor understanding of their own preferences, even misjudging what makes themselves happy (Wilson

2004; Epley 2014; Gilbert 2007).

In addition, behavioral biases such as hyperbolic discounting, or present bias, may be at play. Present bias refers to the tendency for people to overvalue smaller short-term gains over larger long-term rewards (Frederick, Loewenstein, and O’Donoghue 2002; Laibson 1997). Studies show that people who exhibit present bias are more likely to incur credit card debt (Meier and Sprenger 2010) and less likely to save more for retirement (Goda et al. 2015). Extending this concept to financial goals, when asked to prioritize a list of goals that are important to them, people may not know what their preferences are and therefore elect to prioritize short-term goals over long-term ones or emphasize minor objectives while neglecting major aspirations because of the desire for instant gratification.

A way to help people prioritize is to use mathematically based models to surface their preferences, and an example of this is a variation of best-worst scaling called Maximum Difference Scaling, commonly referred to as MaxDiff (Louviere, Flynn, and Marley 2015; Cohen 2003). This technique has been applied to better understand the prioritization of preferences in a wide variety of settings, such as health care, marketing, social services, and public policy (Flynn, Louviere, Peters, and Coast 2007; Wittenberg et al. 2016; Louviere et al. 2013).

When compared to other prioritization techniques, including the conventional approach of direct ranking, MaxDiff has a stronger discriminatory power (discerning the top choice from the second-highest choice and so on), higher test-retest reliability, and is less demanding on people’s working memory (Cohen 2003; Cohen and Orme 2004; Jaeger, Jorgensen, Aaslyng, and Bredie 2008; Lagerkvist 2013). However, to the best of our knowledge, the effectiveness of MaxDiff has not been tested when it comes to helping people prioritize

investment goals.

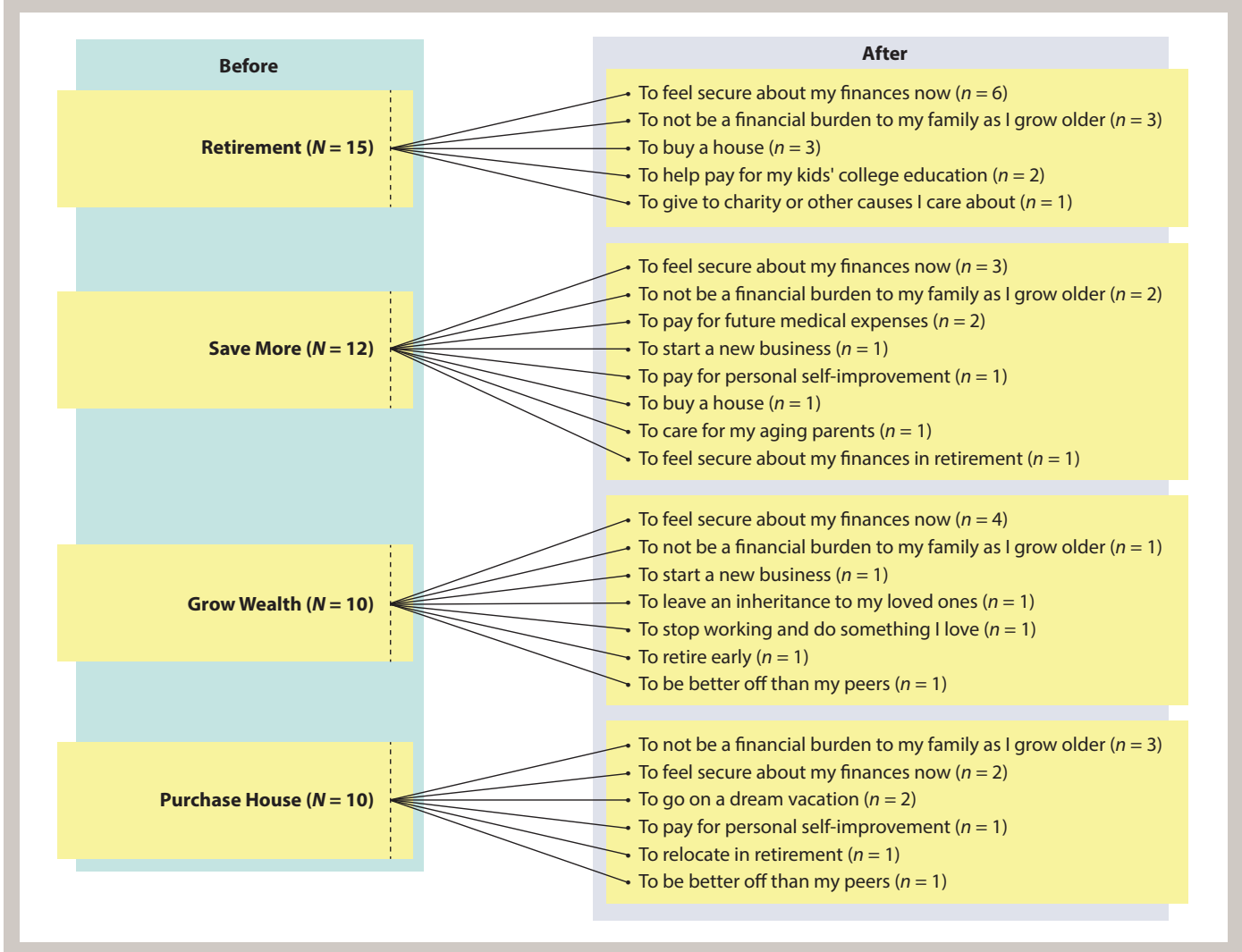
Study 2 experimentally compared two different techniques of prioritizing investment goals: (1) unstructured “open lists” with rank ordering (hereafter referred to as “direct ranking”—a straightforward and conventional approach); and (2) MaxDiff. If the MaxDiff results do not produce a different result than direct ranking, it can be concluded that MaxDiff did not have a meaningful impact on helping people prioritize investing goals beyond the conventional direct ranking.<sup>13</sup>

## Study 2 Methodology

The remaining 841 participants who were not part of Study 1 were in Study 2. All 841 participants were randomly assigned into one of two conditions. In the first condition ( $n = 424$ ), participants were asked to direct rank the investment goals in the master list in the order of importance to them via an online survey. Similar to Study 1, those whose time to complete the survey was beyond 1.5 times the interquartile range, or there was clear evidence they did not take the survey seriously (determined by their open-ended responses) were dropped from further analysis. The sample size for this experimental arm was 362.

In the second experimental condition ( $n = 417$ ), participants were also asked to rank all 17 investment goals via an online survey, but unlike the direct ranking condition, participants in the second condition used a MaxDiff elicitation technique instead. With the MaxDiff procedure, participants were iteratively shown a random subset of four out of the 17 investment goals (the decision to use four at a time was based on pilot testing feedback and prior research) and were asked to rate which of the four goals presented in that subset was most important to them, and which in the set was the least important (the middle two options were left unrated).

**Figure 4: Patterns of How Investing Goals Changed After Seeing the Master List**



This process was then repeated 25 times for each participant with different random subsets. The overall ranking per person of priorities can be estimated from the formula (Louviere, Flynn, and Marley 2015):

$$\frac{\text{\# of times goal was selected as most important} - \text{\# of times goal was selected as worst}}{\text{\# of times the goal appeared}}$$

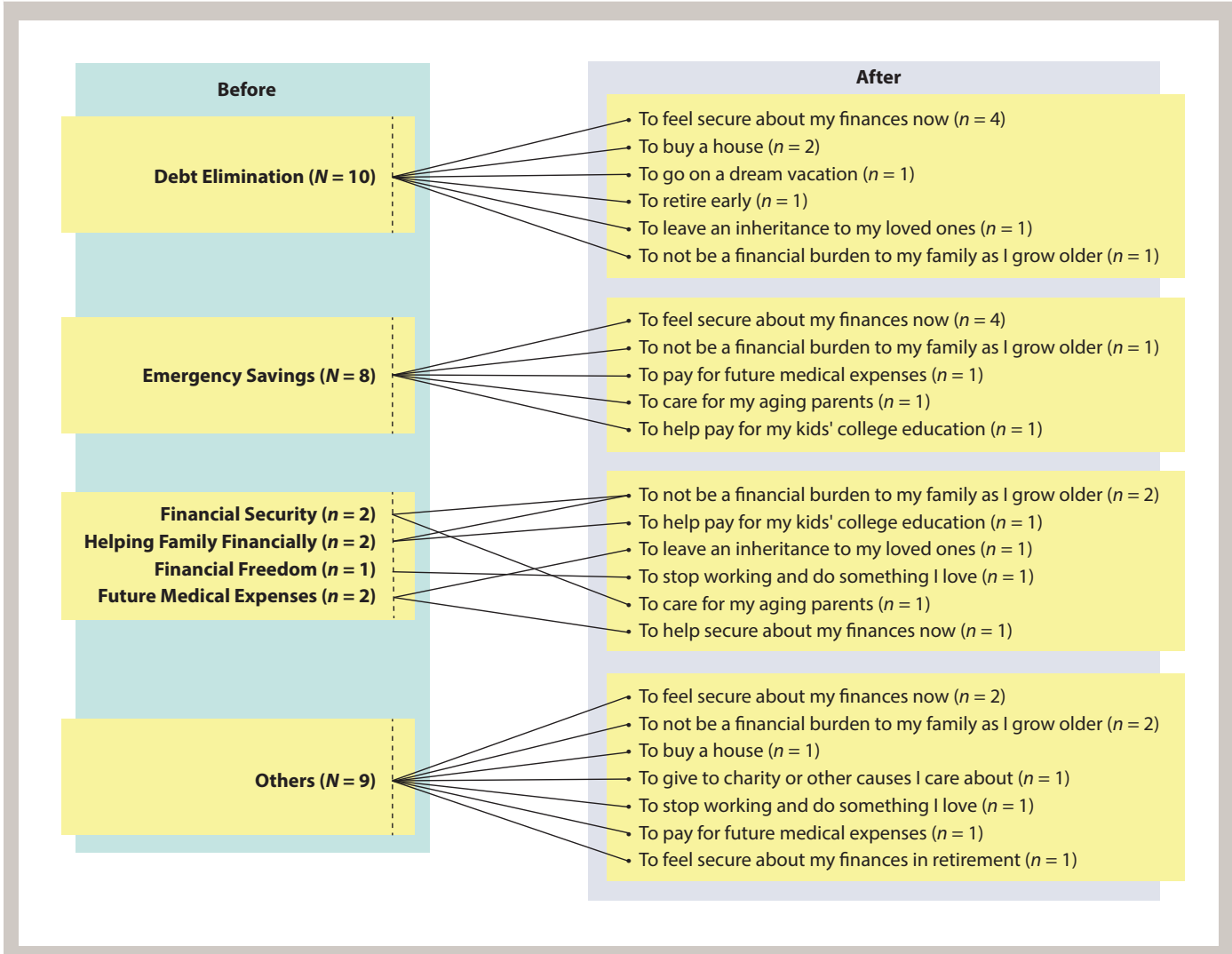
Again, participants who were outliers based on time taken to complete the survey were dropped. The final sample size for the MaxDiff condition was 367.

### Study 2 Findings

The average ranking results of investment goals from both ranking techniques, based on their respective raw ranking scores, are shown in Figure 5. Overall, the results were relatively similar, with a rank order correlation of 0.89 between the average rankings. In both conditions, participants ranked “to feel secure about my finances now,” “to feel secure about my finances in retirement,” and “to not be a financial burden to my family as I grow older,” as their top three investment goals. Similarly, participants in both conditions ranked the same investment goals—“to start a new business,” “to experience the excitement of investing,” and “to be

better off than my peers”—as their least important goals. There were differences between both techniques somewhere in the middle of the ranking structure, with “to care for my aging parents,” and “to go on a dream vacation,” showing the largest differences.

Though it is plausible that MaxDiff may be more effective at drawing out a distinction between altruistic goals such as “to care for my aging parents,” versus more hedonistic ones such as “to go on a dream vacation,” there is not enough data to evaluate this conjecture. Further research could determine that more highly structured elicitation techniques, like MaxDiff, tap into cognitive mechanisms that are

**Figure 4: (continued) Patterns of How Investing Goals Changed After Seeing the Master List**

more effortful. Concordantly, the direct ranking technique may overwhelm decision makers and therefore induce them to use heuristics, which are more attuned to emotive motivations, thereby making short-term and hedonistic goals appear more attractive. In any case, the results from this study show that, in this multi-goal context, the more common technique of direct ranking suffices as a way to estimate the priority of investors' goals.

## Conclusion

Most people have had the experience of discovering what they are hungry for at a restaurant by looking at the menu. They might say, "I didn't even know I was in

the mood for this, but it sounds perfect." If people always knew their preferences and their priorities, such an act of self-discovery would be unheard of. But as behavioral science often shows, people can sometimes be strangers to themselves (Wilson 2004). Looking at a simple list of options can help us uncover what's going on in our own heads.

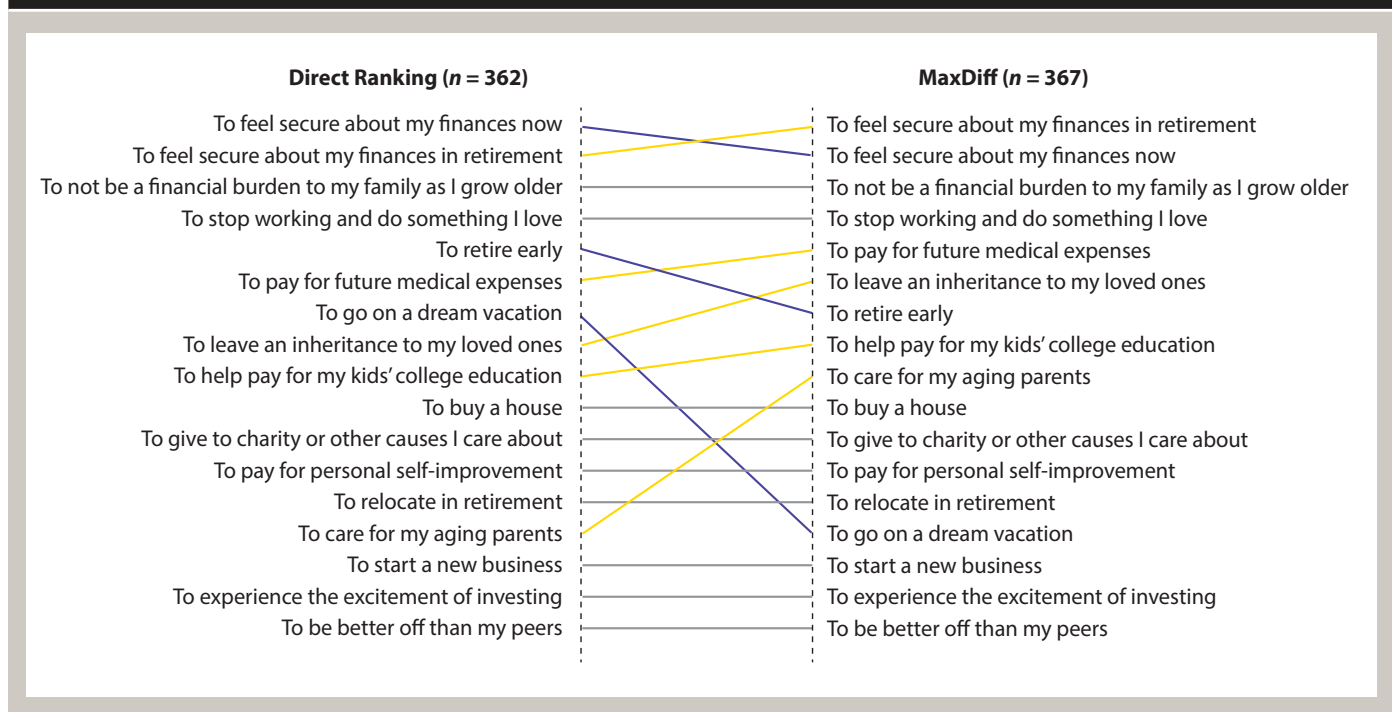
This research was motivated by a desire to improve the financial planning process where individual/household investment goals are identified and ranked. Understanding people's goals is a central part of helping people make good choices and developing plans that are suitable for their long-term objectives. This research empirically investigated different ways

of approaching goal identification and ranking and found that a simple, open-ended question may not really help many people give good answers. The results suggest that a master list may be a simple, yet effective tool financial planners could use to help elicit goals that are truly important to their clients.

The main limitation of this study is that participants were not making real decisions with their real money. It is unknown how investors may respond to the master list in real life. However, these researchers conducted user-testing prior to launching this study and found that people generally enjoyed the process and found the master list of goals exhaustive enough to be relevant to their real-life situations. ■



**Figure 5: Average Ranking of Investment Goals by Different Ranking Technique**



**Endnotes**

1. See the 2014 Ernst and Young report, “Goals-Based Planning: A Personalized Service for Strengthening Client Relationships.” Available upon request.
2. More information on address-based sampling from the American Association for Public Opinion Research can be found at [aapor.org/Education-Resources/Reports/Address-based-Sampling.aspx](http://aapor.org/Education-Resources/Reports/Address-based-Sampling.aspx).
3. In their study, it wasn't clear if they tested the effectiveness of the master list on goal elicitation.
4. See “What Investors Want,” at [res.cloudinary.com/yumyoshoin/image/upload/v1/pdf/future-investing-2018.pdf](http://res.cloudinary.com/yumyoshoin/image/upload/v1/pdf/future-investing-2018.pdf).
5. See “New Face of Wealth Management in the Era of Hybrid Advice,” from Accenture at [accenture.com/t20170403T223757Z\\_\\_w\\_/us-en/\\_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Consulting/Accenture-New-Face-of-Wealth-Management-Hybrid-Advice.pdf](http://accenture.com/t20170403T223757Z__w_/us-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Consulting/Accenture-New-Face-of-Wealth-Management-Hybrid-Advice.pdf). See also “Goal Planning Survey” from Ameritrade at [s1.q4cdn.com/959385532/files/doc\\_downloads/research/Goal-Planning-Survey-2016.pdf](http://s1.q4cdn.com/959385532/files/doc_downloads/research/Goal-Planning-Survey-2016.pdf). Also see the Schrodgers report “Investor Behavior: From Priorities to Expectations,” at [www.schrodgers.com/en/insights/global-investor-study/2017findings/education/](http://www.schrodgers.com/en/insights/global-investor-study/2017findings/education/).

6. For a notable exception, a 2017 Hearts & Wallets ([heartsandwallets.com](http://heartsandwallets.com)) survey found “build up an emergency fund” to be the top financial goal for most investors.
7. Using a conventional approach to removing outliers, those who took longer than 1.5 times the interquartile range were deemed to have taken too long.
8. The sample characteristics of the sample were very similar before and after the outliers were dropped. Data is available upon request from the authors.
9. See endnote No. 5.
10. The patterns of the top three goals were generally the same for weighted data, with the exception of the residual category “others.” The slight movement in the pattern was due to the fact that the unweighted frequency for the third top-ranked all the way to the sixth top-ranked were extremely close, with some having identical unweighted counts.
11. Results may be obtained from the authors upon request.
12. In this analysis, “grow wealth” and “save more” were considered ambiguous goals. Rather, this research was interested in learning what participants would do with their increased wealth and/or increased savings.

13. Direct order ranking and MaxDiff each have their own strengths and weaknesses. For example, the results from MaxDiff enables one to identify cardinal and ordinal utility, but it can be tedious to implement. Although direct order ranking only provides information on ordinal ranking, it is relatively straightforward and easy to implement. Assessing their relative (dis)advantages are beyond the scope of this paper.

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