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Insights: Financial Capability

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Authors:

Jack Marley-Payne, PhD,
Financial Life Cycle Education

Angela Fontes, PhD,
FINRA Foundation Visiting Scholar & Fontes Research, LLC

Olivia Valdes, PhD,
FINRA Investor Education Foundation

What's inside

You Know More Than You Think: Unrealized Knowledge in "Don't Know" Responses to Financial Knowledge Questions

Executive Summary

Financial knowledge assessments often provide an opportunity for respondents to indicate they "don't know" (DK) the correct answer to a question. While these responses are often treated as incorrect, emerging research suggests that DK responses may convey information that is distinct from wrong answers. In this brief, we seek to better understand what DK responses tell us about people's underlying knowledge and behaviors.

Research Format

- We conducted an experiment to determine whether including a "don't know" response option made a difference in how people answered questions about personal finance and investing.
- We compared the financial behaviors of people who selected the "don't know" response option more and less frequently.
- Because other research has found that women select the "don't know" response option more than men, we looked at how gender related to DK responses.

Findings

- People who were provided with the "don't know" option scored lower, on average, on questions about personal finances and investing than those who were not given the option. This might mean that when people are given the option to select "don't know," they often do, even when possibly knowing the right answer.
- Women selected the "don't know" response option more than men.
- People who selected "don't know" more often also reported fewer positive financial behaviors, such as having a plan in place for saving money or having a retirement account.

Implications

When using or designing assessments of financial or investing knowledge, it is important to consider the following:

- For educators and practitioners assessing consumer knowledge, deciding whether to include a "don't know" option is a nuanced issue. On the one hand, including it may lead to underestimating the knowledge levels of some respondents. On the other, looking at how often someone selected the "don't know" option may provide insights into their financial or investing needs and facilitate deeper and more effective conversations and support.
- If the assessment offers a "don't know" response option, counting it as incorrect might not be the right approach. A "don't know" response doesn't necessarily mean that the respondent has no information whatsoever. It may instead mean that they lack the confidence to trust their judgement. This is particularly true for women, who more frequently select "don't know."
- People who select "don't know" more often may have unique educational and counselling needs when it comes to personal finances and investing. In this study, respondents who selected "don't know" more often on the financial and investing knowledge assessment reported engaging in fewer positive financial behaviors, like having a plan for saving, a retirement account or investments outside of retirement.

Background

Financial practitioners often assess their clients' knowledge about financial topics to determine their needs and challenges, and work with them to outline their financial goals. For practitioners to provide helpful guidance, assessment measures need to accurately reflect test-takers' knowledge. Often, these assessments include multiple choice questions that offer respondents the option to say they "don't know" the correct answer to questions, with DK responses typically being categorized as "incorrect" without further analysis (Bucher-Koenen et al., 2021). However, more recently, the inclusion (or exclusion) of DK choices when assessing financial knowledge has received considerable attention, with some interesting patterns emerging (Bucher-Koenen et al., 2021, Wilmarth & Kim, 2023, Urban & Valdes, 2022).

Women tend to select DK in multiple choice questions at higher rates than men, a finding that has been well established in psychology (Baldiga 2014, Beyer 1990). Recent work finds this also holds true for personal finance assessments. A longitudinal study by Bucher-Koenen et al. (2021) found that many who initially answered DK in a financial knowledge assessment selected the correct answer when required to choose an answer, suggesting that some may be unaware of knowledge that they possess or may lack confidence in their knowledge. Notably, the rates at which DK respondents answered correctly when compelled to choose an answer were higher than could be explained by random lucky guesses. An experiment by Tranfaglia et al. (2024) found similar results. In this paper, we use the term **unrealized knowledge** to describe instances in which a respondent can answer a question correctly when compelled to but opts to respond "don't know" when given the option. Bucher-Koenen and colleagues found more unrealized knowledge among female respondents than male respondents.

Bucher-Koenen et al. (2021) also found that selecting "don't know" was associated with a decreased likelihood of stock market participation, suggesting that the observed unrealized knowledge may have important implications for financial decision-making.[1] Additional research by Marley-Payne and Davidson (manuscript) also found a relationship between DK responses and financial behavior, with those more frequently answering DK being less likely to engage in positive financial activities but also more likely to avoid negative ones. This is perhaps unsurprising, given that unrealized knowledge may be a result of under-confidence—that is, where a person's subjective evaluation of their knowledge level is lower than an objective measure of their knowledge. A large body of research has shown that under-confidence can influence financial decisions (Angrisani 2019, Ahmad 2019, Huang et al. 2020).

Our Research

To better understand the role of DK in financial knowledge and behavior, we conducted a survey-based randomized controlled experiment using the AmeriSpeak® Panel, a probability-based panel funded and operated by NORC at the University of Chicago. This study uses survey data collected from 1,680 U.S. adults between April 23 and May 14, 2021. The study sample was designed to be representative of the U.S. household population. We were interested in three questions:

1. To what extent do people answering DK on financial knowledge assessments have unrealized financial knowledge? That is, do people's financial knowledge scores improve when they are not given the choice to answer DK (even when accounting for random guessing)?
2. Do women, who more frequently select DK responses than man, exhibit greater levels of unrealized knowledge?
3. Are DK responses on financial knowledge assessments distinctively associated with financial behaviors, relative to correct or incorrect responses?

To answer these questions, we first looked at the relationship between DK responses and performance on financial knowledge assessments. Then, we investigated the relationship between don't know response and financial behaviors.

Don't Know and Financial Knowledge

Instruments and methodology

Knowledge Assessments. We assessed *financial knowledge* using three questions (the "Big 3") that measured an understanding of fundamental financial concepts (Lusardi & Mitchell, 2004). Five questions addressed *investing knowledge*. Each respondent received a score for the correct responses on the financial knowledge quiz (out of three), and the investing knowledge quiz (out of five).[2] For ease of graphical display, we transformed the average scores on both the financial and investing knowledge quizzes to percent correct.

Experimental Conditions. To better understand the impact of including a DK response option on performance in financial knowledge assessments, we leveraged data from a randomized controlled experiment. We randomly assigned respondents into one of two groups:

(1) **Don't Know group (DK group),** in which respondents were given the option to select "don't know" to a set of financial and investing knowledge questions.

(2) **No Don't Know group (NDK Group),** in which respondents were not provided a DK option to the financial and investing knowledge questions.

Analyses. For those in the DK group, we tracked the number of DK and incorrect responses separately. Because respondents in the NDK group were not offered the option to select DK, it is possible that they responded correctly, not because they knew the correct answer, but due to a lucky guess. To account for this scenario, we adjusted the score for those in the DK group, adding the expected number of points they would have gained for each question, if, instead of answering DK, they guessed completely at random. For questions with four response options, we assume that random guessing would result in a correct answer approximately 25 percent of the time. Thus, we added 0.25 to the financial and investment knowledge scores for each DK response. For example, if on the financial knowledge battery, a respondent in the DK group answered one question correctly, one question incorrectly, and one question DK, they would receive a score of 1.25 out of 3.[3]

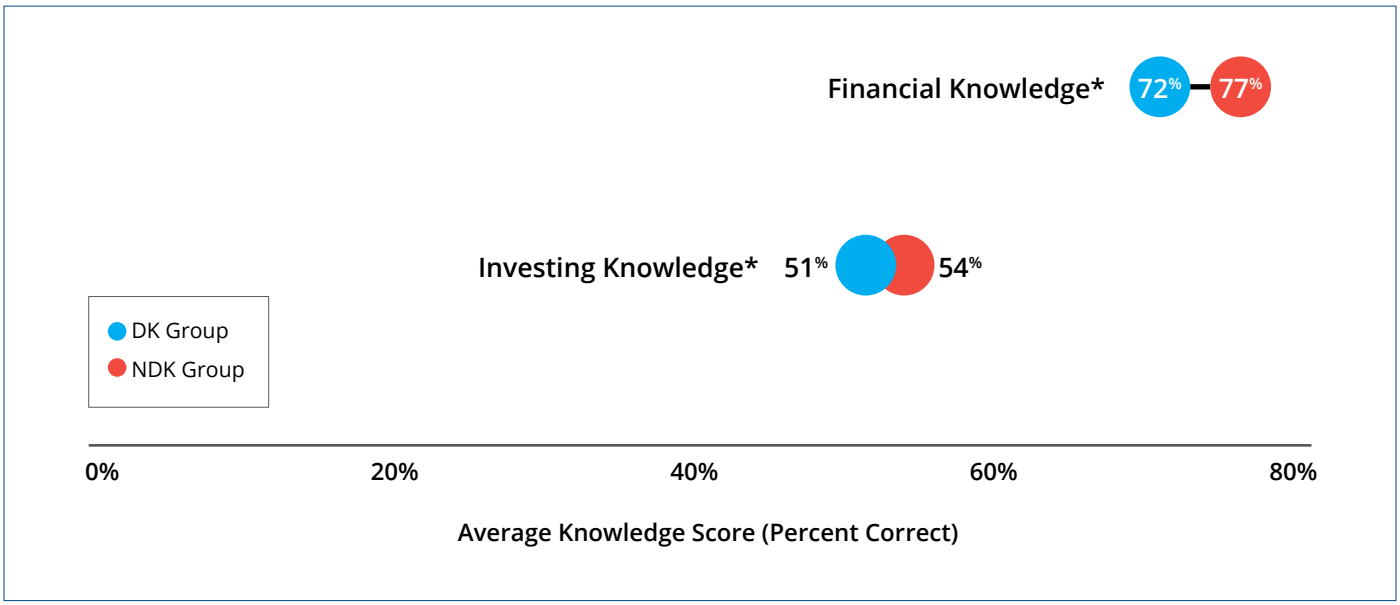
We used *t*-tests to check if there is a significant difference between the DK and the NDK scores (where the NDK scores are higher). A *t*-test is a statistical tool that can be used to compare the means of two populations to identify whether these differ significantly from each other. If there is, we presume that there is some degree of unrealized knowledge that is masked by the opportunity to select the DK response option.

Results

The average knowledge scores for financial knowledge, investing knowledge and overall knowledge are displayed in *Table 1*. In both categories, the NDK group on average, and after adjusting for random guessing, scored higher than the DK group.[4] This suggests there is a degree of unrealized knowledge in both the financial and investment knowledge batteries.

> ***On average, knowledge scores are higher among those without a Don't Know option, than those with a Don't Know option.***

Table 1. Average Scores on the Financial and Investing Knowledge Assessments



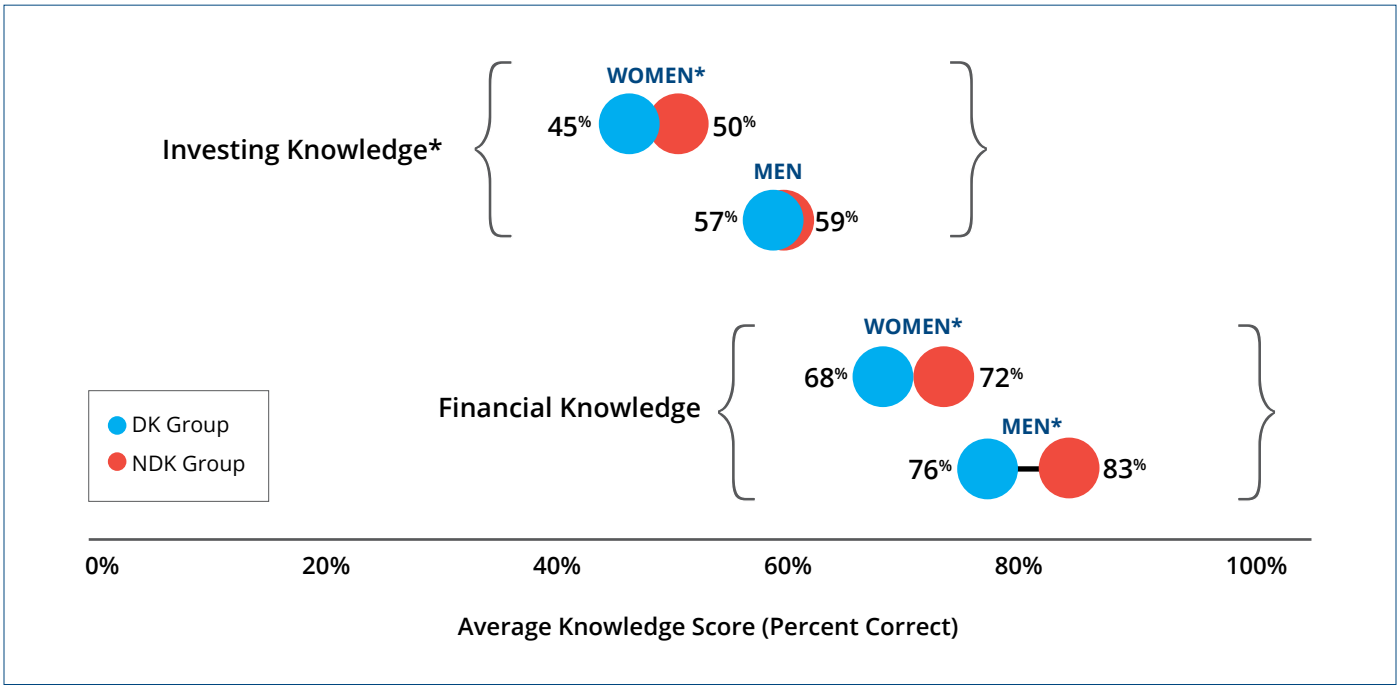
Note. To examine mean differences between NDK and DK Scores for Financial Knowledge and Investment Knowledge Scores we used *t*-tests. *$p < .05$

DK and Financial Knowledge by Gender. We looked at results broken down by gender (see *Table 2*). In line with previous research, across both knowledge categories, women, on average, scored lower than men. And among respondents in the DK group, women answered DK more frequently than men.

When we looked at the scores of men and women separately, we saw that men scored higher than women across the knowledge categories both with and without a DK option. In addition, we found evidence of unrealized knowledge in both knowledge categories for women. That is, on average, DK scores are significantly lower than NDK scores, which suggests unrealized knowledge. For men, however, unrealized knowledge is only evident in financial knowledge scores. Previous research has suggested that this unrealized knowledge is related to under-confidence, or a belief that one knows less than one actually knows.

> ***Women who are not given the choice to answer "Don't Know" score much higher than those who are provided a "Don't Know" response option.***

Table 2. Average Scores on the Financial and Investing Knowledge Assessments, by Gender



Note. To examine mean differences between NDK and DK Score for Financial Knowledge Score and Investing Knowledge Score, we used *t*-tests. Men's investing knowledge (*p*-value = 0.33). *$p < .05$

Don't Know and Financial Behaviors

Instruments and Methodology

Understanding how selecting DK is tied to actual financial behaviors is a critical step toward more effective use of these types of assessments. To examine the association between DK responses (in the financial knowledge assessment described above) and financial behaviors, we estimated a regression model studying the association between answering DK and financial behaviors, relative to providing a correct or incorrect response. Specifically, we examined four beneficial financial behaviors and four negative financial behaviors. Previous research showed these behaviors tracked the quality of financial decision making (Marley-Payne et al. 2023).

Positive Behaviors: (1) currently having a savings account; (2) currently having a plan for saving; (3) currently having taxable investments; and (4) currently having a retirement account.

Negative behaviors: (1) having ever used a check cashing service; (2) having ever taken out a payday loan; (3) being unbanked (that is, no one in the household possessing any kind of bank or financial account); and (4) typically having no surplus income left at the end of each pay period.

Analyses. To examine the relationship between DK responses and financial outcomes, we performed eight regressions using each of the financial behaviors listed above as outcome variables. In each model, we examined correct and incorrect responses (relative to DK responses) and gender as independent variables. We summed the total positive actions taken (out of four) and the total number of negative actions taken (out of four), and used each as an outcome variable in additional regressions. All analyses controlled for race/ethnicity, age, income and geographic location.

Results

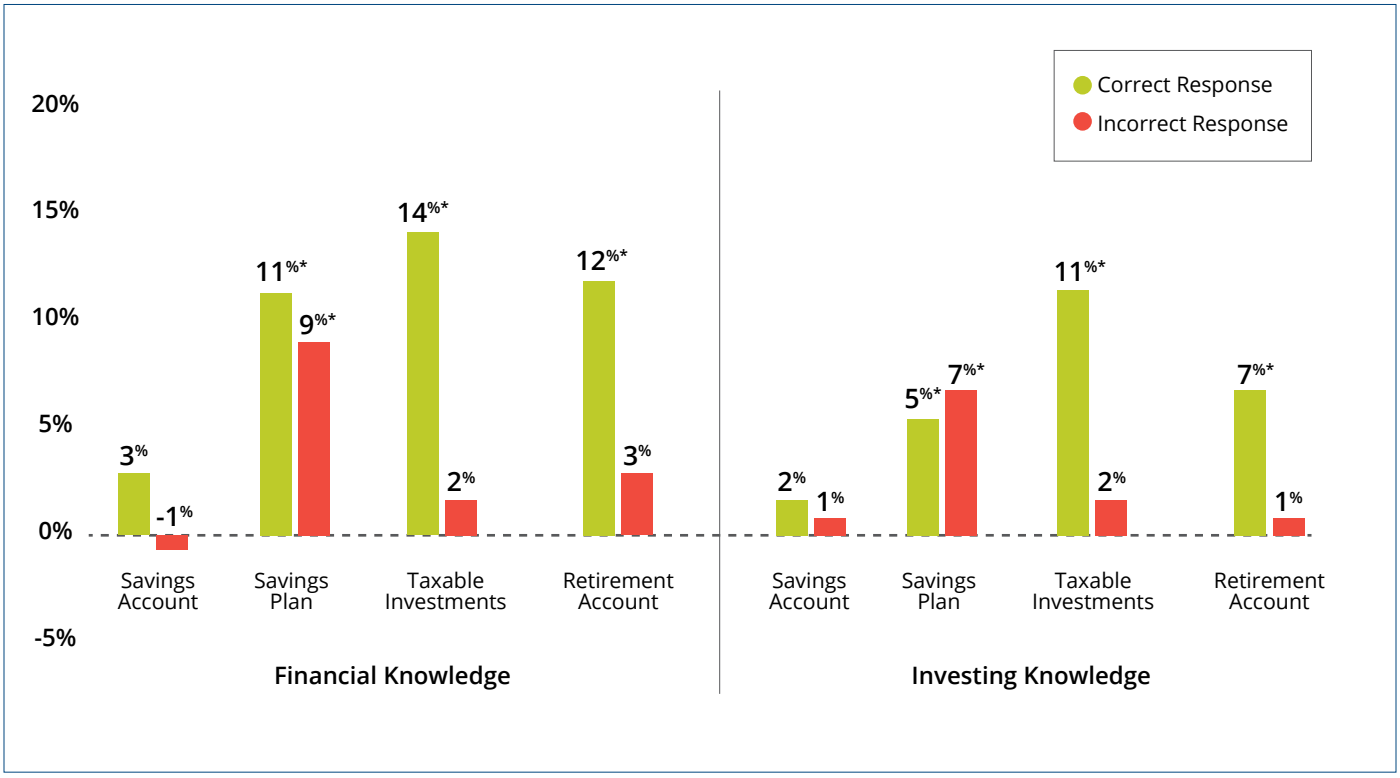
Positive Behaviors. Next, we looked at the relationship between DK responses and positive behavioral outcomes, shown in *Tables 3* and *4*. Specifically, we used a series of regressions to examine the role of correct and incorrect responses on financial behaviors, relative to DK responses—while controlling for demographic factors. The tables show how the likelihood of engaging in a behavior changes when a respondent answers DK less frequently and answers either correctly or incorrectly.

As we would expect, we see that, relative to selecting DK, providing an additional correct answer significantly increases engagement in the positive behaviors studied (except owning a savings account). Somewhat more surprisingly, however, relative to selecting don't know, those who provided more incorrect responses also tended to report more total positive behaviors.

Answering one fewer financial knowledge question DK and one more question correctly is associated with carrying out 0.4 additional positive behaviors, while switching one financial knowledge DK response for an *incorrect* response is associated with carrying out 0.13 additional positive behaviors.

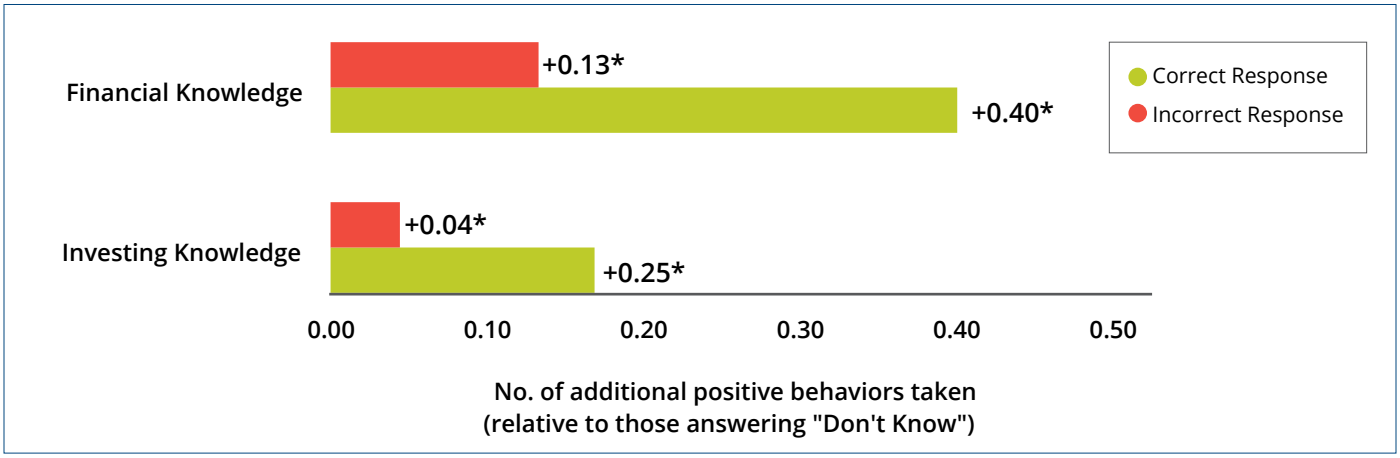
Adults who answer knowledge questions correctly and incorrectly report more positive behaviors than those reporting they "Don't Know."

Table 3. Associations Between Correct and Incorrect Responses and Individual Positive Financial Behaviors, Relative to DK Responses



*$p < .05$

Table 4. Associations Between Correct and Incorrect Responses and Total Positive Financial Behaviors, Relative to DK Responses.



*$p < .05$

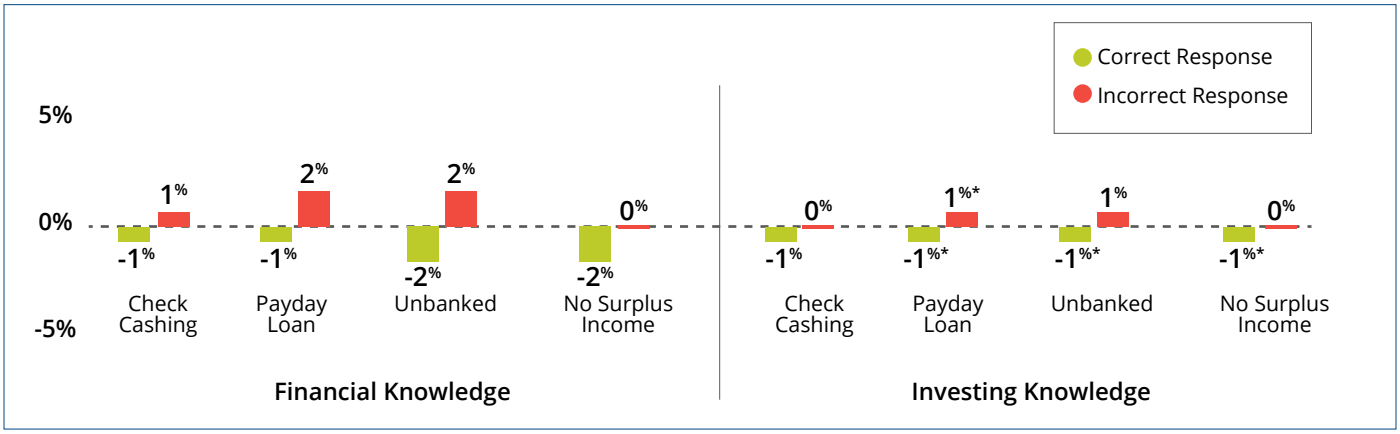
Negative Behaviors. *Tables 5* and *6* display the results for negative behaviors. Here we see that for financial knowledge, relative to selecting DK, correct answers are associated with a significant decrease in total negative behaviors and having no surplus income, again in line with what we would expect.

Providing an incorrect response to investment questions is associated with a significant increase in likelihood of taking out a payday loan.

We found that answering one fewer financial knowledge question DK and one more question correctly is associated with carrying out 0.07 fewer negative behaviors, while switching one financial knowledge DK response for an *incorrect* response is associated with carrying out 0.05 additional negative behaviors.

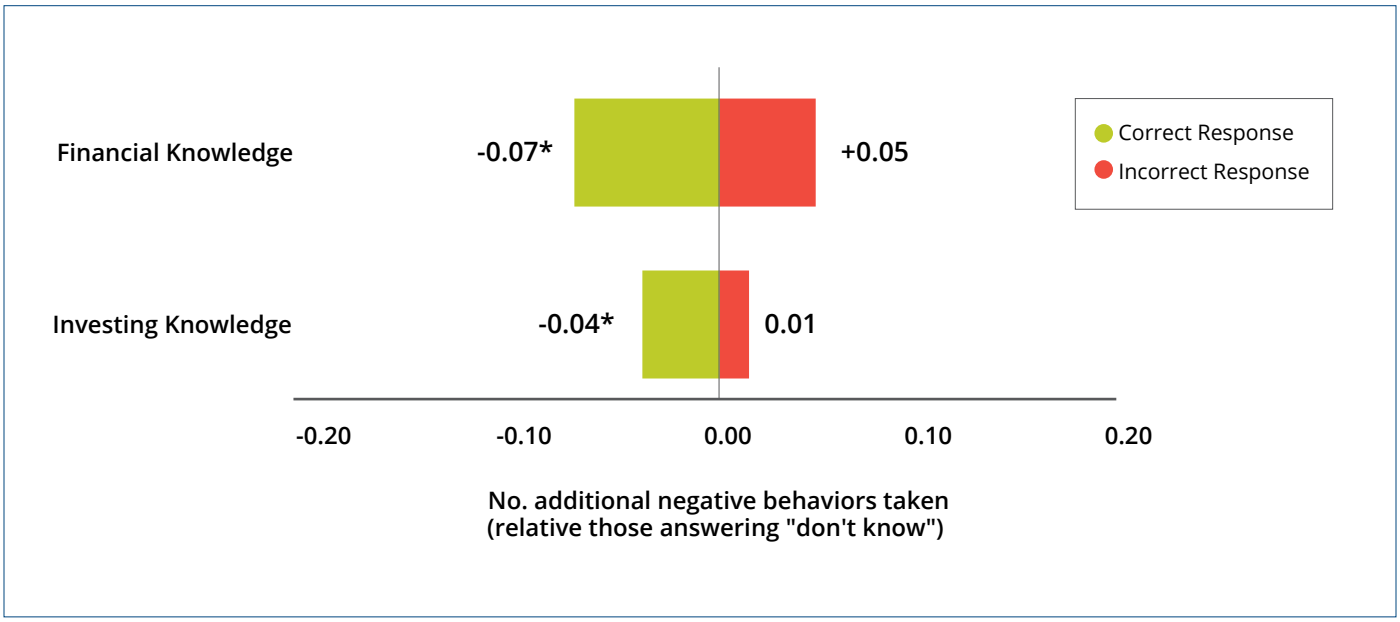
> ***While adults answering knowledge questions correctly generally report fewer negative behaviors than those who say "Don't Know," adults answering knowledge questions incorrectly are no better off than those who say they "Don't Know"***

Table 5. Associations Between Correct and Incorrect Responses and Individual Negative Financial Behaviors, Relative to DK Responses.



*$p < .05$

Table 6. Associations Between Correct and Incorrect Responses and Total Negative Financial Behaviors, Relative to DK Responses.



*$p < .05$

Discussion

Our study casts new light on people's tendency to answer "don't know" on financial knowledge assessments. We found that, on average, the scores of those placed in the DK group are significantly lower than scores for the NDK group. This provides experimental evidence that offering a DK response option suppresses performance on financial knowledge assessments and suggests that many of those answering DK possess some degree of knowledge that is not accurately captured by the assessment. Our results support previous findings that women tend to answer DK more frequently than men and suggest that, in some areas, women may have more unrealized knowledge, and potentially are more underconfident, than men.

When we look at the relationship between selecting DK and financial behavior, we find that those with more correct responses on financial and investing knowledge questions report positive financial behaviors more often and negative behaviors less often than those answering DK. This is a finding that is expected, given that we expect those with higher knowledge to engage more often in sound financial behaviors. On the other hand, the financial behaviors of those who respond incorrectly are mixed. While answering incorrectly rather than DK is associated with a higher frequency of positive behaviors, it is also associated at times with more negative behaviors. This suggests there may be behavioral pitfalls and benefits when a person moves away from thinking they don't know the answer to erroneously thinking that they do.

Implications for Financial Counseling and Planning. The results provide causal evidence that there is knowledge hidden within DK responses, an important phenomenon that practitioners and educators should be aware of and pay special attention to. Those who report not knowing answers to personal financial questions may be underconfident, possessing knowledge that they are unaware exists. Further, this under confidence may be contributing to engaging in fewer positive financial behaviors. Without considering DK responses independently from incorrect responses, financial professionals or educators may be missing an opportunity to appropriately address and coach these individuals.

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Endnotes

1 Stock market participation is understood as owning stocks, a mutual fund or related instrument.

2 Note that previous research has examined the role of DK responses using the Big 3. This study is the first to also examine the role of DK in an investing knowledge assessment, providing important data on whether initial results generalize to other forms of financial knowledge assessments.

3 The adjustment assumes the respondent is choosing at random between all response options. Alternatively, they may not only answer correctly but eliminate some responses and choose at random between the remainder. This would count as a form of "partial" unrealized knowledge according to our methodology.

4 All results displayed for the NDK Group are adjusted to account for random guessing (see Instruments and Methodology section for more information).

1700 K Street, NW
Washington, DC 20006-1506
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