The 2018 *TIAA Institute-GFLEC Personal Finance Index*

The State of Financial Literacy Among U.S. Adults

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Executive Summary

The *TIAA Institute-GFLEC Personal Finance Index (P-Fin Index)* is an annual barometer of knowledge and understanding which enable sound financial decision making and effective management of personal finances among U.S. adults. It is unique in its capacity to examine financial literacy across eight areas of personal finance in which individuals routinely function. The 2018 data represents the second wave of the *P-Fin Index*.

Most Americans lack personal finance knowledge for making appropriate financial decisions in the normal course of life. On average, U.S. adults answered 50% of the P-Fin Index questions correctly. In addition, there is essentially a 50/50 split between those who were able to answer one-half of the index questions correctly and those who were not able to do so.

Comprehending risk is the functional area where financial literacy tends to be lowest. On average, survey participants answered only 35% of these questions correctly. This finding is troubling given that risk and uncertainty are inherent in most financial decision making; comprehending risk and its implications are integral to making appropriate decisions. Financial literacy tends to be highest with concepts related to debt and debt management.

The *P-Fin Index* correlates with financial actions and outcomes in the expected manner, i.e., individuals with greater personal finance knowledge are more likely to have positive personal finance experiences. Each area of functional knowledge is correlated in the expected direction with the outcomes examined, but none disproportionately so. This indicates comprehensive financial literacy across areas matters for sound financial actions and outcomes—none is more important than the others.

Introduction

How well individuals navigate the myriad of financial decisions they face is dependent, at least in part, on their knowledge and understanding of personal finances, typically referred to as financial literacy. Decisions made and outcomes experienced matter not only at the household level, but also for the economy as a whole. So what is the state of financial literacy in the U.S.? Are there areas where knowledge is particularly strong and, analogously, areas where it is particularly weak? How does financial literacy vary across different segments of the population? How does financial literacy correlate with financial behavior?

The *TIAA Institute-GFLEC Personal Finance Index* (*P-Fin Index*, for short) measures the knowledge and understanding that enable sound financial decision making and effective management of personal finances. The *P-Fin Index* relates to common financial situations that individuals encounter and thus can be viewed as a gauge of "working knowledge."

The *P-Fin Index* is unique in its capacity to produce a robust measure of overall personal finance knowledge *and* a nuanced analysis of knowledge across different areas of personal finance in which individuals inherently function. The index is based on responses to 28 questions,[1] with three or four questions for eight functional areas:[2]

1. Earning—determinants of wages and take-home pay.
2. Consuming—budgets and managing spending.
3. Saving—factors that maximize accumulations.
4. Investing—investment types, risk and return.
5. Borrowing/managing debt—relationship between loan features and repayments.
6. Insuring—types of coverage and how insurance works.
7. Comprehending risk—understanding uncertain financial outcomes.
8. Go-to information sources—recognizing appropriate sources and advice.

1 Each question is structured as multiple choice with four response options: the correct answer, two incorrect answers and "don't know."

2 These areas correspond to the National Standards for Financial Literacy outlined by the Council for Economic Education. See http://councilforeconed.org/resource/national-standards-for-financial-literacy/.

In contrast, other studies have been limited to a smaller set of questions focusing on fundamental concepts, such as numeracy, inflation and risk diversification.[3] In addition, the *P-Fin Index* survey collects information about household finances and financial behaviors; this enables examination of the relationship between knowledge and outcomes.

The 2018 survey was fielded online in January with a nationally representative sample of U.S. adults, ages 18 and older, and completed by 1,012 individuals.[4] (Table A1, Appendix A shows the weighted distribution of respondents across various demographics.)

2018 *P-Fin Index* results

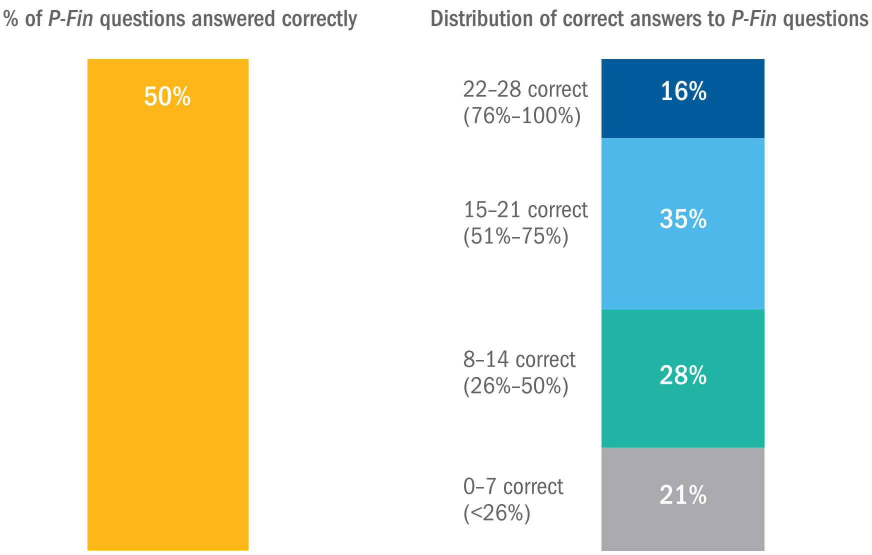
Many Americans lack personal finance knowledge that enables sound financial decision making. On average, U.S. adults answered 50% of the *P-Fin Index* questions correctly. In addition, there is essentially a 50/50 split between those who were able to answer one-half of the index questions correctly and those who were not able to do so (Figure 1). Sixteen percent demonstrated a relatively high level of personal finance knowledge and understanding, i.e., they answered more than 75% of the index questions correctly, while 21% showed a relatively low level, i.e., they answered 25% or fewer of the questions correctly. These figures are essentially identical to financial literacy levels in the 2017 *P-Fin Index* (Appendix B, Figure B1).

3 A standard set of three questions addressing the concepts of numeracy, inflation and risk diversification was developed by Lusardi and Mitchell (2008, 2011a) and has now been incorporated into multiple surveys to evaluate the level of financial literacy, both in the U.S. and abroad. (Note: These concepts are covered by questions in the *P-Fin Index* survey.) Subsequently, some surveys (e.g., the National Financial Capability Study) have added other questions addressing more sophisticated concepts—assets pricing and mortgage payments (Lusardi, 2011), and, more recently, knowledge of interest compounding in the context of debt. Others have addressed specific topics, such as debt and risk literacy. For a more complete discussion, see Lusardi and Mitchell (2014).

4 The sample was drawn from GfK's KnowledgePanel, which is a large-scale probability-based online panel.

Figure 1. 2018 *P-Fin Index*

U.S. adults answered one-half of *P-Fin Index* questions correctly, on average.



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

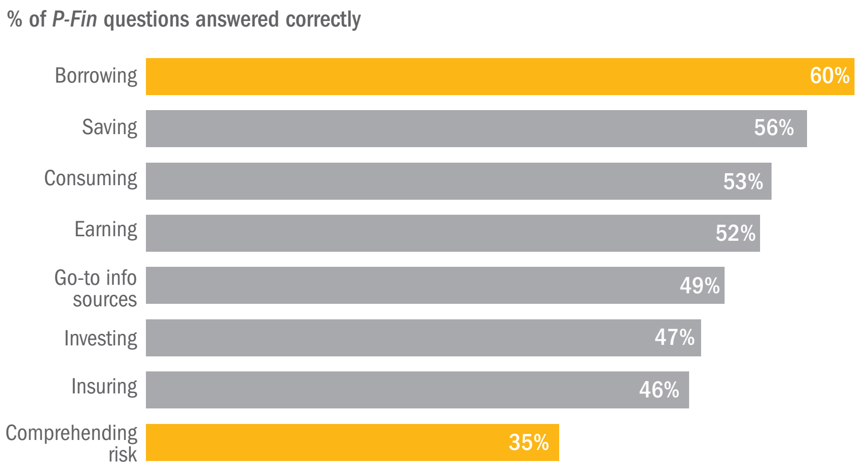
Functional knowledge

Comprehending risk is the functional area where financial literacy tends to be lowest. On average, survey participants answered only 35% of these questions correctly (Figure 2.) This finding is consistent with other research identifying risk-related concepts as the most difficult for individuals to grasp.[5] It is also consistent with the findings from the 2017 *P-Fin Index* (Appendix B, Figure B2).

5 See Coppola, et al., (2017) and Lusardi (2015).

Figure 2. Functional knowledge

Borrowing is where financial literacy is highest; comprehending risk is where it is lowest.



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Given that risk and uncertainty are inherent in most financial decision making, this is particularly troubling. Comprehending risk involves understanding that the expected outcome in a given scenario depends on the range of possible outcomes, the financial implication associated with each outcome and the likelihood of each outcome occurring. Responses to the following question demonstrate the difficulty many individuals have in comprehending risk.

Investment A will deliver a return of either 10% or 6%, with each outcome equally likely. Investment B will deliver a return of either 12% or 4%, with each outcome equally likely. You can expect to earn more by investing in which?

- *Investment A (chosen by 23%)*
- *Investment B (chosen by 14%)*
- ***It does not matter – expected return is the same with each (correct answer; chosen by 29% of respondents)***
- *Don't know (chosen by 33% of respondents)*

Understanding risk and its implications is integral to making appropriate decisions across the realm of personal finance, not just investments. Future conditions—employment status, health status, interest rates and future prices— are obviously unknown. Furthermore, the specific outcome associated with a given decision is often unknown at the time of the decision.

Insuring, investing and go-to-information sources are the other functional areas where personal finance knowledge is below average, i.e., below the average of 50% correct answers for the entire *P-Fin Index* survey.

Personal finance knowledge is highest in the area of borrowing and debt management. On average, 60% of the borrowing questions were answered correctly (Figure 2.) This finding is also consistent with the 2017 *P-Fin Index* results (Appendix B, Figure B2.) Debt tends to be a feature of personal finance common across the life cycle for many individuals; knowledge and understanding may emerge from confronting accumulated debt, often from the very early stages of adulthood.

Saving, consuming and earning are the other areas where personal finance knowledge is above average, i.e., above the average of 50% answered correctly for the entire *P-Fin Index* survey.

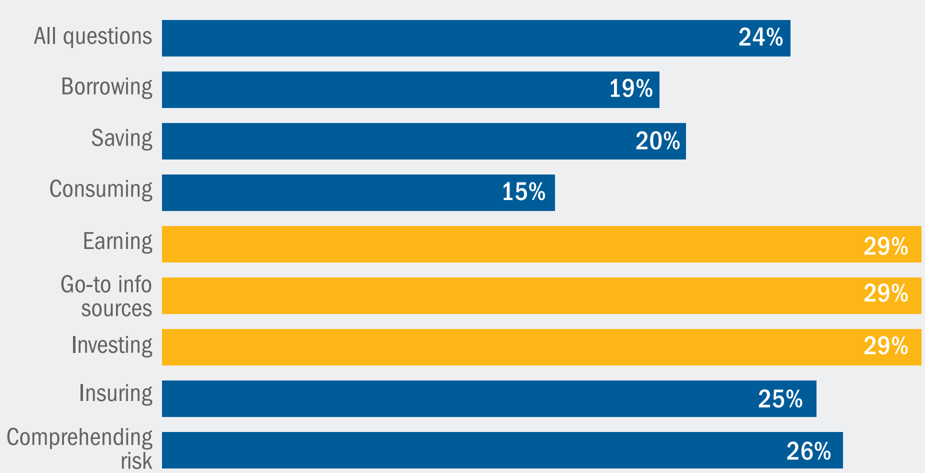
I don't know

Figure 3 shows the percentage of *P-Fin Index* questions answered with a "don't know" (DNK) response in the aggregate and across functional areas. On average, individuals responded DNK to 24% of the *P-Fin Index* questions.

Figure 3. Don't know

"Don't know" responses are most common with earning, investing and go-to information sources.

% of *P-Fin* questions answered "don't know"



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

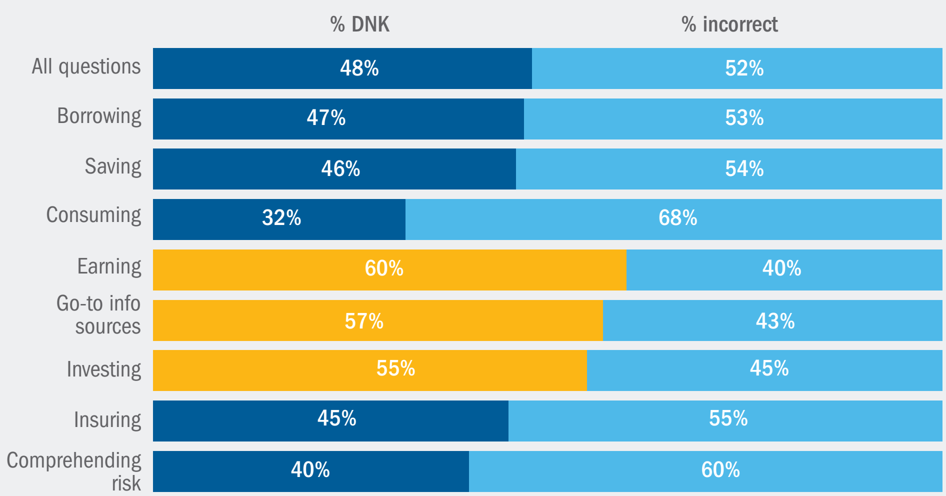
A DNK response for a question provides information beyond an incorrect answer. Previous research has found that a DNK response typically signals a more acute lack of knowledge and understanding relative to an incorrect answer.[6] With the former, the knowledge and understanding that enable someone to even grasp the question tends to be missing.[7] Therefore, focusing on the relative frequency of DNK responses and incorrect answers can provide further insights into financial literacy.

Earning, investing and go-to information sources are where individuals most frequently respond DNK to *P-Fin Index* questions—29%, on average (Figure 3). Beyond this, however, these are the only areas where DNK responses are more common (55% to 60%) than incorrect answers when a question is not answered correctly (Figure 4.) In contrast, while comprehending risk is the area where financial literacy is lowest (i.e., the average percentage of correct answers is lowest), DNK responses account for less than one-half (40%) of instances where a question is not answered correctly.

Figure 4. Don't know

DNK responses are more common than incorrect answers in the areas of earning, investing and go-to information sources.

Relative share of "don't know" responses and incorrect answers



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

6 See Lusardi and Mitchell (2014).

7 Alternatively, there is also evidence that a DNK response may signal a respondent's lack of confidence in what he or she actually knows about the subject matter.

Demographic variations

Financial literacy varies across demographic groups. Figure 5 shows the average percentage of *P-Fin Index* questions answered correctly by demographics; Figure 6 presents the distribution of correct answers within each demographic group. These findings are overall consistent with variations identified in previous studies, as well as the 2017 *P-Fin Index* findings.[8]

- Financial literacy among men exceeds that among women. There is also a significant difference of 9 percentage points in the share of men and women demonstrating a relatively high level of personal finance knowledge, i.e., answering more than 75% of *P-Fin Index* questions correctly.
- Personal finance knowledge is lower among those under age 45 than those ages 45 and older. The former answers a much lower percentage of *P-Fin Index* questions correctly on average and they are more likely to have a relatively low level of knowledge and understanding, i.e., answering 25% or fewer of *P-Fin Index* questions correctly.
- Personal finance knowledge tends to increase as household income increases. In particular, there is a sizeable difference in financial literacy between those with $50,000 or more in household income compared with those whose household income is less than $50,000.
- Financial literacy varies significantly with employment status. Those not employed[9] have markedly less personal finance knowledge than those employed[10] and those retired; the percentage of index questions answered correctly by not-employed respondents is far lower.[11]

8 See Lusardi, Mitchell and Curto (2010), Lusardi and Mitchell (2008, 2011a, 2011c, 2017), Lusardi, Oggero and Yakoboski (2017), Lusardi and Tufano (2009, 2015).

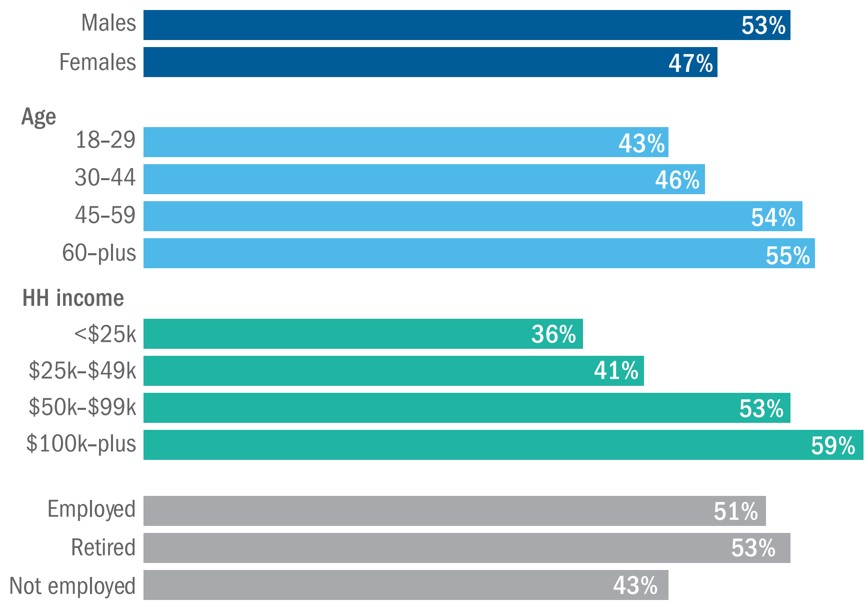
9 Includes students, homemakers, those unemployed or on temporary lay-off, and those disabled and unable to work.

10 Includes those employed full time, part time and self employed.

11 These findings are consistent in what is reported in many other studies. See also the review by Lusardi and Mitchell (2014).

Figure 5. Demographic comparisons

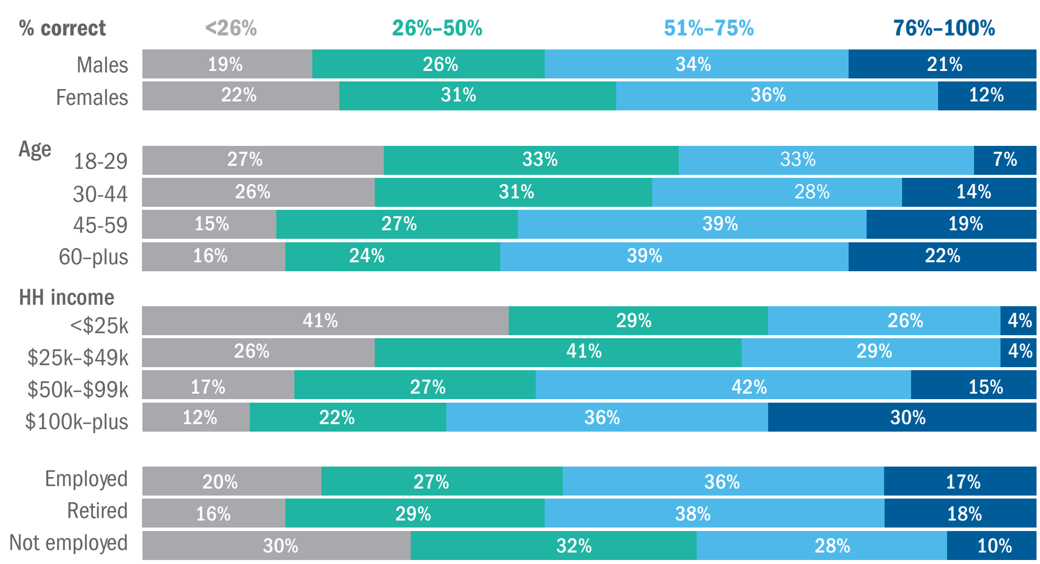
% of *P-Fin* questions answered correctly



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Figure 6. Demographic comparisons

Distribution of correct answers to *P-Fin* questions



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Variations by education

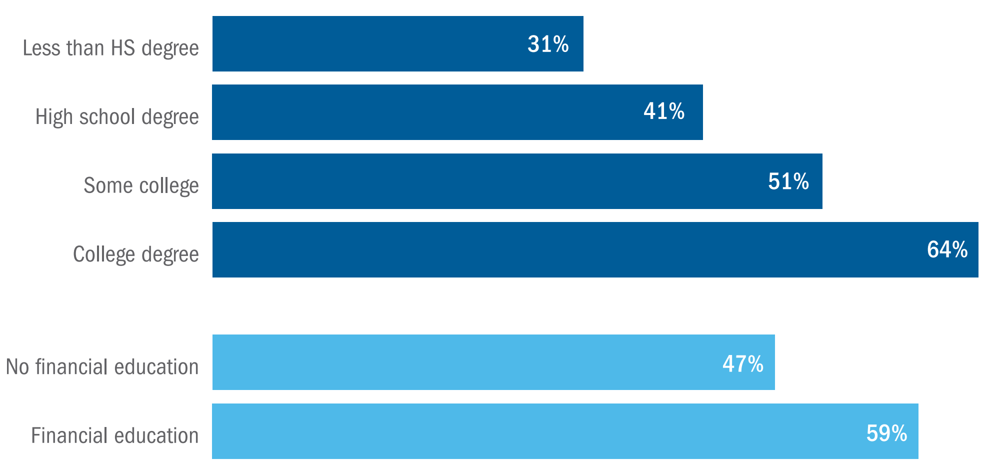
Financial literacy is positively correlated with both general education and financial education. Figure 7 shows the average percentage of *P-Fin Index* questions answered correctly by general education level and by receipt of financial education; Figure 8 presents the distribution of correct answers. These findings are consistent with previous studies, as well as the 2017 *P-Fin Index* findings.[12]

- Higher levels of general education are associated with greater financial literacy. One-third of those with a college degree have a relatively high level of personal finance knowledge and understanding, i.e., answering more than 75% of *P-Fin Index* questions correctly; almost one-half of those with less than a high school degree have a relatively low level, i.e., answering 25% or fewer of *P-Fin Index* questions correctly.
- Individuals who have participated in a financial education class or program answered more *P-Fin Index* questions correctly on average than those who have not received financial education.[13]

Figure 7. Comparisons by education

Financial literacy increases with education.

% of *P-Fin* questions answered correctly



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

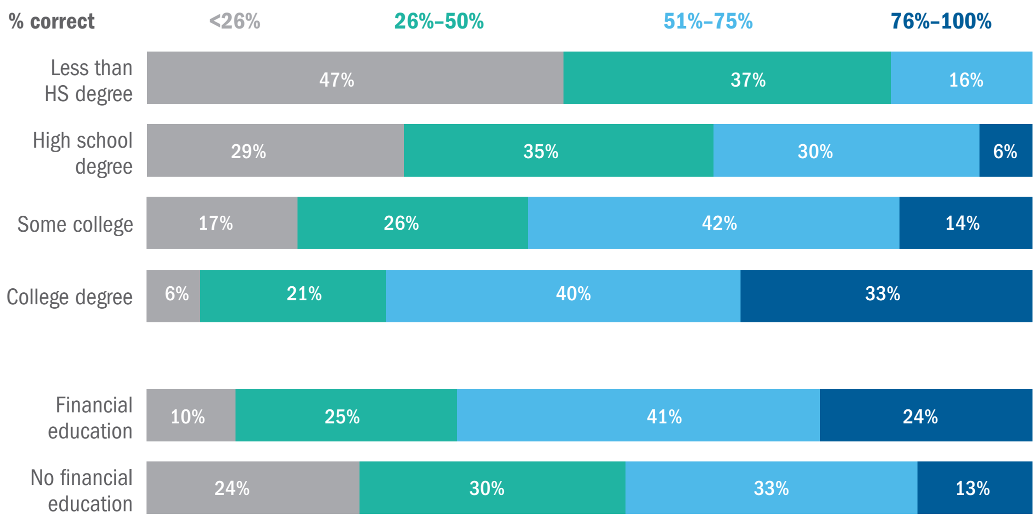
12 See Lusardi and Mitchell (2007a, 2011c, 2014), Lusardi, Oggero and Yakoboski (2017).

13 See Lusardi and Mitchell (2014) for a discussion of existing research regarding the relationship between financial education programs and financial literacy levels, as well as the challenges inherent in empirically establishing causality and effectiveness.

Figure 8. Comparisons by education

Financial literacy increases with education.

Distribution of correct answers to *P-Fin* questions



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

The *P-Fin Index* and personal finance outcomes

Since the *P-Fin Index* measures knowledge and understanding that enable sound financial decision making, it should correlate with financial actions and outcomes. This expectation holds—individuals with greater financial literacy as measured by the index are more likely to have positive personal finance experiences.

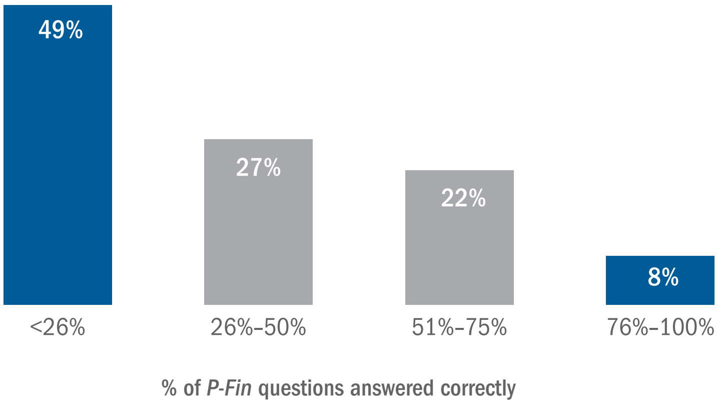
As the percentage of *P-Fin Index* questions answered correctly increases, individuals are:

- Less likely to be financially fragile (Figure 9).
- Less likely to overdraw their checking account (Figure 10).
- More likely to plan for retirement (Figure 11).
- More likely to have non-retirement financial investments (Figure 12).

Figure 9. Financial outcomes

Those with greater financial literacy are less financially fragile.

% who certainly or probably could not come up with $2,000 if an unexpected need arose within the next month

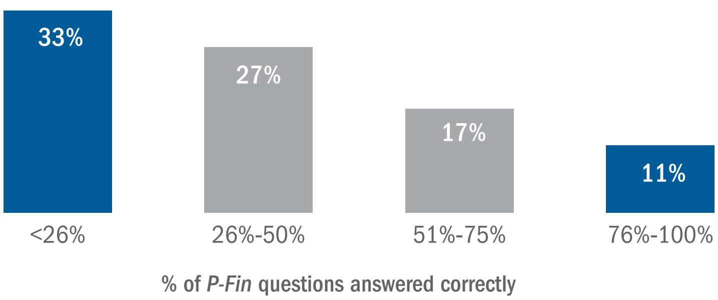


Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Figure 10. Financial outcomes

Those with greater financial literacy better manage their cash flow.

% who frequently or sometimes overdraw their checking account

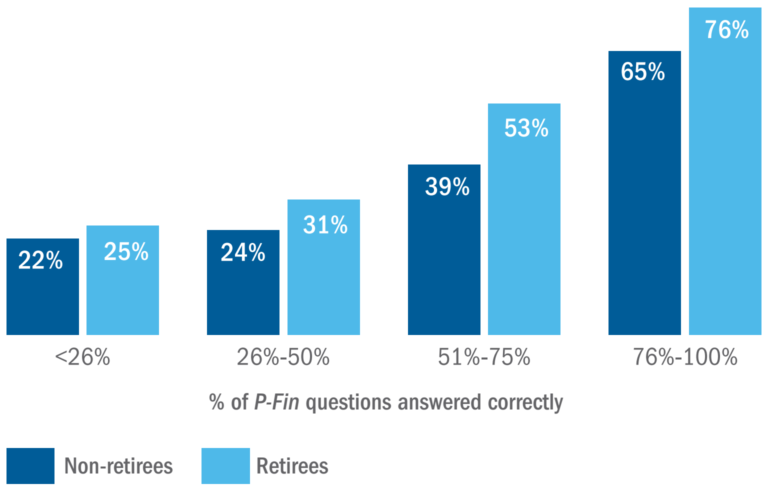


Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Figure 11. Financial outcomes

Those with greater financial literacy are more likely to plan for retirement.

% who have tried to figure out how much they need (needed) to save for retirement

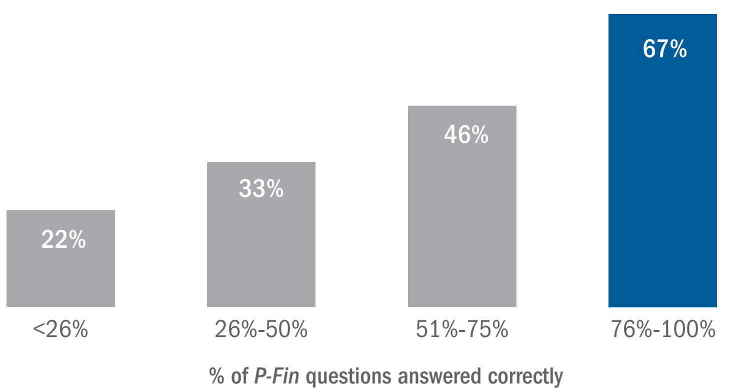


Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Figure 12. Financial outcomes

Those with greater financial literacy are more likely to have non-retirement investments.

% who have financial investments other than retirement accounts



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Analogously, the *P-Fin Index* can be used to examine correlations between financial knowledge in the functional areas and financial outcomes. More specifically, it enables analysis of whether knowledge in a given area has a particularly strong or weak correlation with a specific outcome, relative to knowledge in other areas. There is no such evidence in the data, however. Each area of functional knowledge is correlated in the expected direction with the four outcomes examined, but none has a disproportionately strong or weak correlation. (Appendix C illustrates this finding in the context of financial fragility.) On the surface, this indicates financial literacy in each area matters—none is more or less important than the others.[14]

This highlights the complexity and comprehensive nature of personal finance decision making. Given that the functional areas comprising the *P-Fin Index* correspond to the National Standards for Financial Literacy outlined by the Council for Economic Education, the knowledge tested comprises the most relevant personal finance topics needed for sound financial decision making. So results indicating that financial literacy in each area matters are not surprising.

Discussion

A myriad of personal finance decisions—both simple and complex—confront individuals in the normal course of life. How well individuals navigate these decisions is dependent, at least in part, on their financial literacy. According to the *P-Fin Index*, many Americans lack personal finance knowledge that enables sound financial decision making and effective management of personal finances. On average, U.S. adults answered one-half of the *P-Fin Index* questions correctly. Financial knowledge is particularly low among the young, but it continues to be low even among older individuals who have already made many financial decisions.

The *P-Fin Index* is unique in its capacity to examine financial literacy across eight areas of personal finance in which individuals routinely function. Personal finance knowledge is lowest in the area of comprehending risk. This is troubling given that risk and uncertainty are inherent in the context of making financial decisions. On the other hand, borrowing is the area where adults tend to have the highest level of knowledge. Debt tends to be a feature of personal finance common across the life cycle for many individuals; knowledge and understanding may emerge from confronting accumulated debt.

Given the link between financial knowledge and financial outcomes, it is evident that individuals would benefit from increased financial literacy levels. This is particularly important in an ever changing financial landscape as financial products, services and opportunities available to individuals continually evolve. Sometimes these changes

[14] This topic warrants closer examination given the likely correlation in knowledge levels across the functional areas themselves.

originate from the financial services industry itself as providers innovate. Other times they are the result of changes in government public policy. For example, the regulations governing employment-based and individual retirement plans have continually evolved since the passage of the Employee Retirement Income Security Act (ERISA) in 1974—with implications for how much individuals can save on a tax-preferred basis, the investment options generally available to them, and when and how they can withdraw money from their retirement savings. Other public policy changes have an immediate, direct effect for individuals. For example, changes in tax rates can result in changes in disposable income for a household. This can mean deciding how best to utilize an increase in disposable income or, alternatively, how best to respond to a decrease in disposable income.

Given the range and complexity of decisions that individuals face today, it is important to step up efforts to provide the requisite financial education in school and the workplace. To this end, GFLEC offers a course in personal finance at The George Washington University School of Business, provides professional development resources for teachers and personal finance curricula for high schools. Comprehensive understanding of the various facets of personal finance equips individuals for sound financial decision making and effective management of personal finances.

Appendix A

Respondent demographics

Table A1. Distribution of respondent demographics (weighted sample)

Age	
18 to 29	21%
30 to 44	25
45 to 59	26
60 and older	28
Gender	
Male	48%
Female	52
Ethnicity	
White	64%
African-American	12
Hispanic	16
Other	8
Education	
Less than HS degree	11%
High school degree	29
Some college	29
College degree	31
Household income	
Less than $25,000	15%
$25,000 to $49,999	20
$50,000 to $99,999	31
$100,000 and more	34
Employment status	
Employed	59%
Retired	25
Not employed	16
Marital status	
Married	57%
Living with partner	7
Single	22
Divorced/widowed/separated	15

Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Appendix B

Comparing 2017 and 2018 *P-Fin Index* findings

The *P-Fin Index* is a long-term project that annually assesses the personal financial knowledge of Americans by surveying a representative sample of the U.S. adult population (ages 18 and older). This will enable tracking of a range of trends in financial literacy over time. The 2018 *P-Fin Index* represents the second wave of the project. Results of the 2017 *P-Fin Index* were released in March 2017.[15] Data for the 2017 index were collected in September 2016. Data collection for future waves will follow the timing of the 2018 index, with surveys fielded in January of each year.

A particular demographic group is oversampled with each wave of the *P-Fin Index*, enabling a deeper examination of financial literacy among that group's members. Hispanics were oversampled for the 2017 *P-Fin Index*.[16] Millennials were oversampled for the 2018 *P-Fin Index*; a report focused on the findings for Millennials will be subsequently released in 2018.

Aggregate results for the 2017 and 2018 *P-Fin Index* are essentially equal (Figures B1, B2 and B3.) While the lack of improvement in financial literacy is disappointing, it is certainly not unexpected given the timeframe. It is reasonable to expect changes in aggregate financial literacy levels to occur gradually over an extended number of years. On a positive note, the lack of change over the first two waves indicates that the underlying survey questionnaire functions well, i.e., it produces a robust measure of financial literacy across years. Furthermore, even at the question level, responses in the first two waves look basically the same in the vast majority of cases.

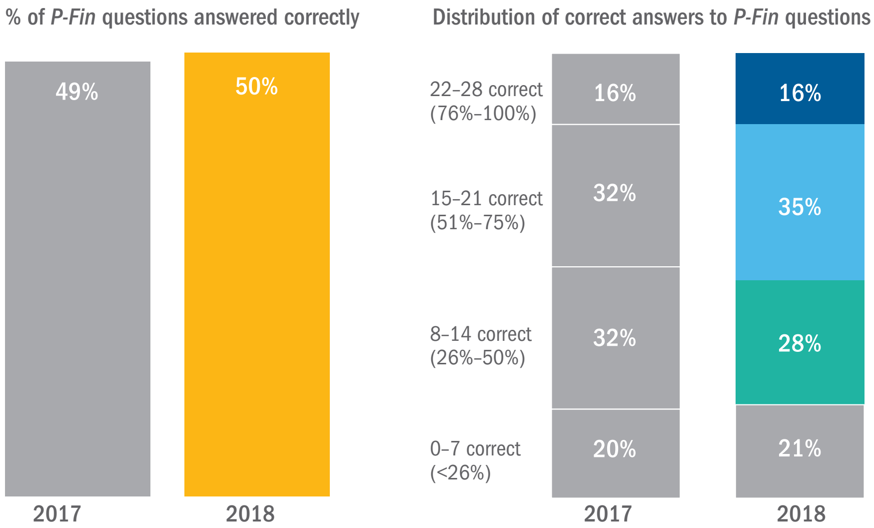
With that said, a quality review of the 2017 *P-Fin Index* survey questionnaire was undertaken and several changes were made in the 2018 questionnaire as a result. Changes to six questions were designed to enhance clarity in their wording. In three questions, a single word was changed or added. In the other three, question wording or response options were changed; both changed in one question. The respective concept addressed by each question remained the same. These edits ensure a robust indicator of personal finance knowledge and understanding over time.

[15] See Lusardi, Oggero and Yakoboski (2017).

[16] See Hasler, Lusardi and Yakoboski (2017).

Figure B1. Results unchanged in 2018

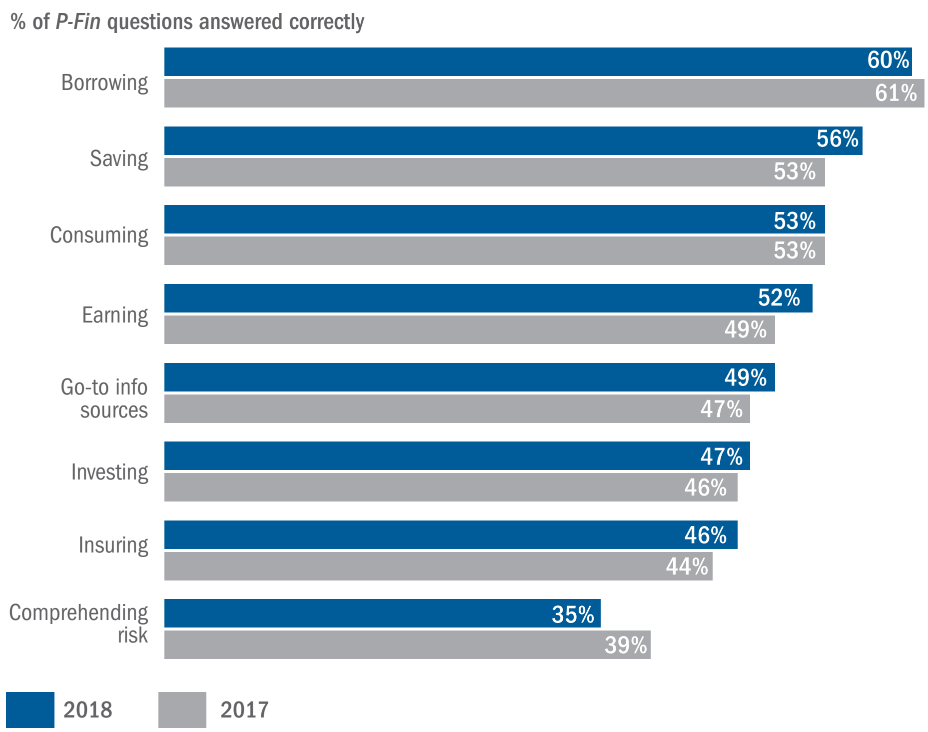
Financial literacy levels remain the same.



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2017, 2018).

Figure B2. Results unchanged in 2018

Functional knowledge remains the same.

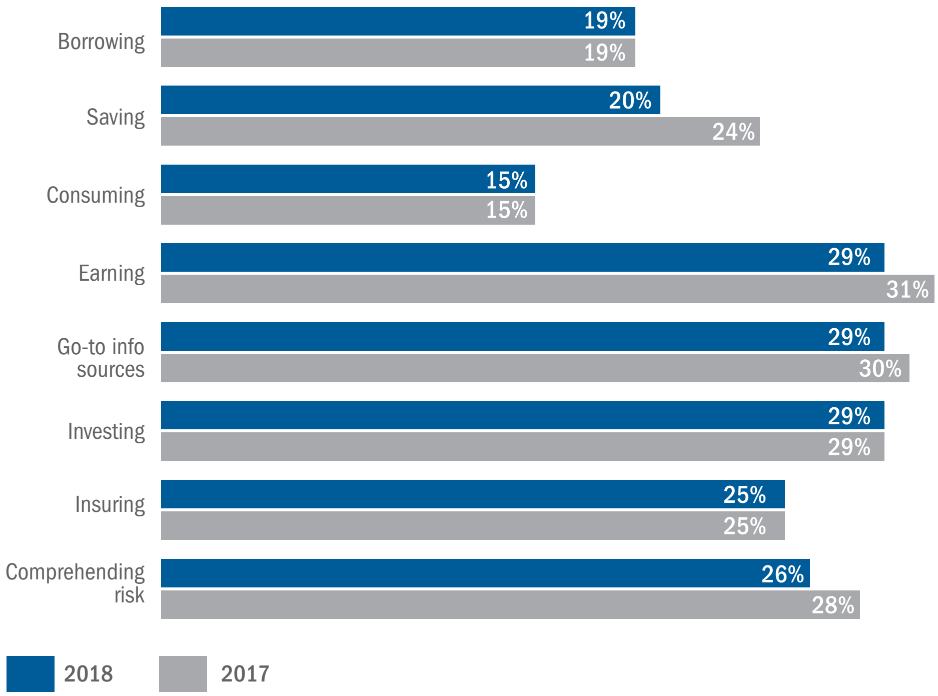


Source: *The TIAA Institute-GFLEC Personal Finance Index* (2017, 2018).

Figure B3. Results unchanged in 2018

Functional knowledge remains the same.

% of *P-Fin* questions answered "don't know"



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2017, 2018).

Appendix C

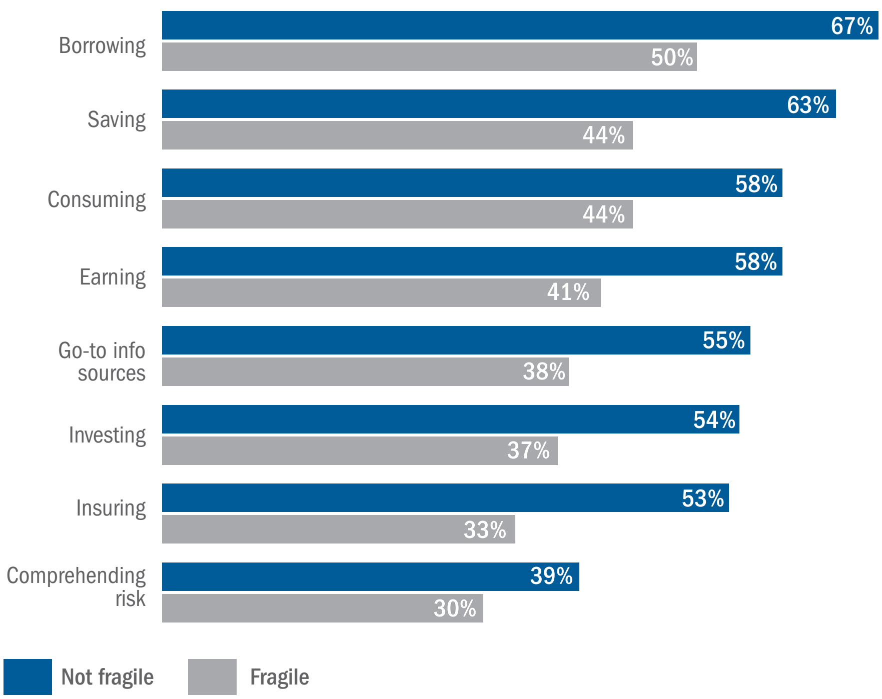
Functional knowledge and financial fragility

Financial literacy in each area of functional knowledge is correlated in the expected direction with the four financial outcomes examined. However, no area of functional knowledge has a disproportionately strong or weak correlation with outcomes. Figure C1 illustrates this finding in the context of financial fragility.

Figure C1. Functional knowledge and financial fragility

Financial fragility correlated with each area of functional knowledge.

% of *P-Fin* questions answered correctly



Source: *The TIAA Institute-GFLEC Personal Finance Index* (2018).

Figure C1 shows the average percentage of correct answers in each functional area for those classified as financially fragile and those not financially fragile. Those not financially fragile answer more questions correctly, on average, in each functional area compared with those financially fragile. Thus, financial fragility and each area of functional knowledge are correlated. Furthermore, the relative difference in correct responses between the two groups is roughly the same in each functional area—the ratio of percent correct among "not fragiles" to percent correct among "fragiles" ranges from 1.3 (comprehending risk and borrowing) to 1.6 (insuring). Thus, no functional knowledge area stands out as a disproportionately strong or weak correlate with financial fragility.

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(4/18)