

# Financial fragility, financial resilience, and pension distributions

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## Abstract

We evaluate Americans' financial robustness during the COVID-19 pandemic, using measures of financial resilience and financial fragility derived from U.S. surveys of persons aged 45 to 75 from 2020 to 2022. We analyze which factors were associated with resilience and fragility, discuss how these measures changed during the pandemic, and assess whether pre-pandemic resilience led to better outcomes during the period. Results show that stronger resilience was protective in terms of financial fragility, and financial literacy was associated with greater pension knowledge as well as better information about retirement plan distribution options. The more financially resilient were also more likely to select an annuity as a pension payout. Our findings imply that policies and programs enhancing financial resilience could help households better withstand economic shocks and address income needs in times of crisis.

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This paper analyzes several aspects of financial resilience in later life, drawing on three surveys of older Americans ages 45 to 75 that we developed and fielded in conjunction with the Understanding America Study (UAS). Our research goals were fourfold: to develop a financial resilience index for older Americans; to examine the stability of this index during the COVID-19 pandemic; to assess whether this index was associated with respondents' self-assessed views of their financial fragility; and to explore whether the index was predictive of how older persons accessed their pension wealth in retirement. This latter point is important, in that relatively few retirees today are automatically defaulted into lifetime income benefits from their retirement plans. Instead, they tend to take lump sums, a decision that exposes them to outliving their accumulated assets during their retirement years.<sup>1</sup>

We build on our prior work by defining *financial resilience* as a household's ability to withstand acute shocks without these having an adverse effect on financial well-being (Clark & Mitchell, 2022a). The resilience concept is measured using an eight-question index that assesses a household's capacity to respond to economic shocks. Specifically, the questions addressed how a household would respond to unexpected loss of earnings; whether it had a retirement/spending plan and tracked spending; how it perceived the impact of current debt on spending; and its level of concern regarding finances. In what follows, we document how and whether household scores moved in response to the shocks associated with the pandemic. For our measure of *financial fragility*, we use a question designed to evaluate a household's ability to cover short-term expenses. Specifically, a household is deemed fragile if it can't come up with \$2,000 when facing an unexpected need within a month. Accordingly, financially fragile people are those who did not plan nor made provisions for such shocks in advance.

Using these two measures, we then ask (1) whether financial fragility was associated with financial preparedness as measured by our index, and (2) if these measures rationalize how older workers accessed their pension wealth. Specifically, we document whether retirees made different distributional choices based on their level of financial resilience, extending our prior work, which did not explore this relationship (Clark and Mitchell, 2022b). Our results offer interesting insights for those seeking methods to boost financial security among older Americans. Specifically, we find:

1. The average household's financial resilience remained quite stable during the pandemic.
2. More financially resilient households were less likely to be financially fragile.

3. Resilient households were also more likely to take their pension account payouts as retirement annuities, instead of lump sums.
4. Greater financial literacy was associated with better information about one's pension plan and pension plan payout choices.

This paper contributes to several literatures. Some research on household financial decision-making focuses on peoples' subjective assessments of their financial status. For instance, Clark et al. (2021) used the financial well-being definition proposed by the Consumer Financial Protection Bureau (CFPB 2015) to evaluate how people perceived their financial skills, behavior, and situations. Interestingly, those authors concluded that the CFPB measure was correlated at only the 0.4–0.5 level with more conventional indicators of self-assessed financial stress. Our financial fragility indicator was also used by Lusardi et al. (2020), who asked survey respondents: "*How confident are you that you could come up with \$2,000 if an unexpected need arose within the next month?*" Possible responses to this question were: "*I am certain I could come up with the full \$2,000; I could probably come up with \$2,000; I could probably not come up with \$2,000; I am certain I could not come up with \$2,000; Don't know.*" If respondents indicated that they "could probably not" or "certainly not" come up with the money, they were classified as financially fragile. Moreover, the Federal Reserve Board's Survey of Consumer Finance (SCF) has tracked this question for several years, thus attesting to its importance to policymakers (Bhutta et al., 2020).

We also contribute to a small literature, reviewed in Clark and Mitchell (2022b), on how retirees decide to access their pension monies. That study reported that retirees covered by defined benefit (DB) plans were significantly more likely to elect annuities, versus otherwise similar employees covered by defined contribution (DC) plans. Moreover, lower-paid and less financially literate individuals were less likely to understand their pension plan characteristics, which could potentially reduce retirement financial resilience. Yet that research did not focus on households in times of crisis, so in what follows, we extend our analysis by following people during the long and financially damaging COVID-19 pandemic.

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1 For instance, Hallez (2020) reported that only 5 percent of workers having defined contribution (401(k) or 403(b) plans had in-plan annuities on the menu.

## Financial resilience in the older population

To gather information on people's perceptions of their financial status and how this changed during the pandemic, we collected responses from 2,279 individuals we surveyed in the UAS at three points in time, 2020, 2021, and 2022.<sup>2</sup> The UAS is a nationally representative online panel study fielded by the University of Southern California that offers detailed information on respondents' economic and demographic characteristics, and their attitudes toward and preparedness for financial shocks. To measure financial resilience, we concentrated on four areas indicative of households' capacity to respond to economic shocks: its exposure to an unexpected loss of earnings; whether it had developed retirement/spending plans and tracked spending; how it perceived the impact of current debt on spending; and its level of concern regarding finances.<sup>3</sup> The specific questions were:<sup>4</sup>

### 1. Ability to respond to unexpected loss of earnings or expenses

**Cope With Lost Earnings:** Does the respondent have an emergency fund that could cover expenses for at least 3 months?

### 2. Developed a retirement and spending plan and track their spending

**Develop Retirement Plan:** Has the respondent calculated the financial resources needed in retirement?

**Track Spending:** Does the respondent track day-to-day spending?

**Set Budget Target:** Does the respondent create a budget and set targets with that budget?

### 3. Impact of current debt on spending

**Debt Level OK:** Does the respondent consider his/her current debt level to be manageable?

**No Medical Delays:** Has this debt delayed or prevented the respondent from receiving medical treatment (including filling prescriptions)?

### 4. Level of concern over finances

**Not Financially Anxious:** Is the respondent anxious about the state of his/her finances and preparedness?

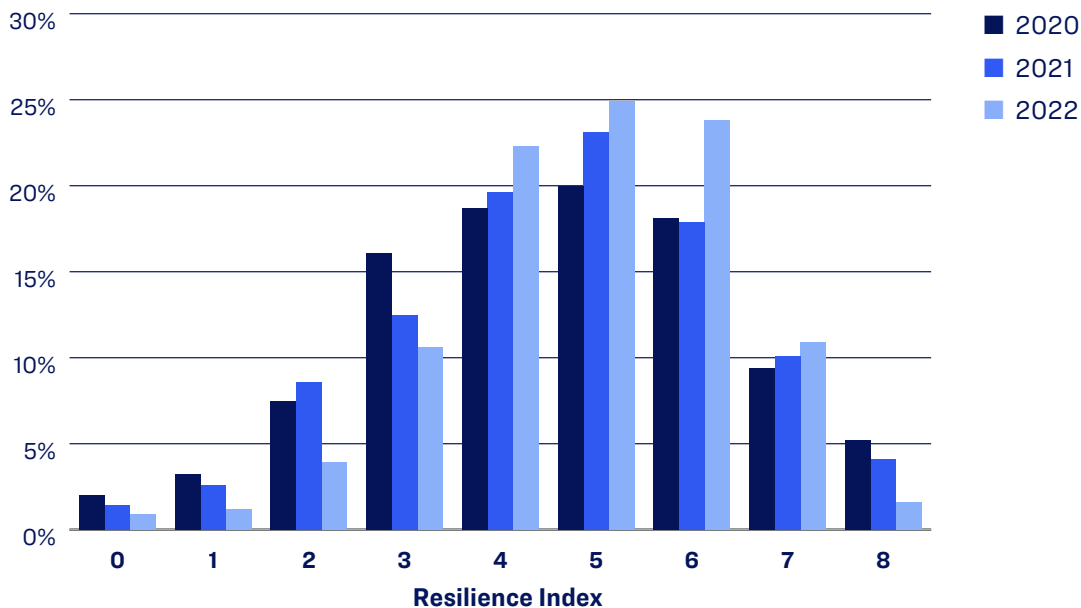
**Money Will Not Run Out:** Is the respondent confident that his/her money will not run out in retirement?

We formed the financial resilience index by adding the positive values each respondent gave for the eight questions. On average, in 2020, respondents indicated a positive response to 4.5 of the questions; by 2022, the mean value of the index had risen to 4.8, despite the experience of two years of pandemic disruption. The distribution of index scores across the three years is shown in Figure 1. In year-to-year comparisons, we also see considerable stability, with around 70% of respondents having index scores of between +/-1.

2 The specific surveys used in our analysis were UAS226, UAS378, UAS441; see <https://uasdata.usc.edu/index.php>

3 The specific questions and possible responses to each question are reported in Clark and Mitchell (2022a). We also compare results for this index to those using expanded measure derived from 20 questions associated with the financial planning activities of the household. Results are qualitatively similar.

4 These questions draw on Clark, Lusardi, and Mitchell (2021), and Lusardi, Schneider, and Tufano (2011).

**FIGURE 1. DISTRIBUTION OF THE FINANCIAL RESILIENCE INDEX IN THE 2020–2022 UAS**

Note: Authors' calculations, UAS panel (see text).

Table 1 reports the proportion of persons responding to these questions in 2020 and again in the subsequent two surveys. In 2020, most respondents were reasonably confident they could cope with a short-term loss of earnings: 68% gave a positive response to that question. The shares also remained quite stable over time: almost three-quarters of the respondents (71%–73%) reported that their debt levels were manageable and did not prevent them from accessing medical treatment (71%–74%); 78%–80% reported tracking their spending; and over half (52%–56%) had set budgetary targets. Nevertheless, as of 2020, only about

one-third (36%) of the group reported that it had planned for retirement (though the share rose to 40% by 2022). Also, over half (56%) were anxious about their finances, and three-quarters were concerned about their money running out. In sum, financial resilience remained relatively stable before and during the pandemic, perhaps because of the expansion of unemployment benefits and government stimulus checks sent to lower-income families. Nevertheless, pockets of financial concern remained.

**TABLE 1. FINANCIAL RESILIENCE INDEX AND COMPONENTS IN THE UAS, BY YEAR**

Variables	2020		2021		2022	
	Mean	SD	Mean	SD	Mean	SD
<b>Total positive responses</b>	4.50	1.84	4.56	1.76	4.82	1.50
Cope lost earnings	0.68	0.47	0.70	0.46	0.69	0.46
Develop retirement plan	0.36	0.48	0.38	0.48	0.40	0.49
Track spending	0.80	0.40	0.78	0.41	0.79	0.41
Set budget target	0.56	0.50	0.52	0.50	0.56	0.50
Debt level OK	0.71	0.45	0.71	0.46	0.73	0.45
No medical delays	0.71	0.45	0.71	0.45	0.74	0.44
Not financially anxious	0.44	0.50	0.44	0.50	0.66	0.47
Money will not run out	0.25	0.43	0.32	0.47	0.26	0.44

Note: Authors' calculations using UAS data; N = 2,279 (see text).

## Which factors were associated with financial resilience?

To understand how financial resilience varied across households during the pandemic, we estimated a multivariate model of resilience index scores as a function of respondents' socioeconomic characteristics including race/ethnicity, education, sex, marital status, and employment status.<sup>5</sup> In addition, we utilized the number of correct answers on the Big Three financial literacy questions on interest rates, inflation, and risk diversification that measure respondents'

levels of financial understanding (Lusardi & Mitchell, 2014). Descriptive statistics appear in Table 2. Since the sample was comprised of the same respondents in all three years, there is very little change in most of the means over time. Of course, the average age of the sample increased by about one year per survey, and there was a two percentage point decline in the proportion of the sample working from one survey to the next.

**TABLE 2. DESCRIPTIVE STATISTICS: RESPONDENT SOCIOECONOMIC CHARACTERISTICS IN THE UAS BY YEAR**

Variable	2020		2021		2022	
	Mean	SD	Mean	SD	Mean	SD
FinLit index	2.11	0.98	2.16	1.00	2.08	1.01
Age (yr)	58.97	8.43	59.40	8.40	59.64	8.37
Female	0.52	0.50	0.52	0.50	0.52	0.50
Male (ref)	0.48	0.50	0.48	0.50	0.48	0.50
Black	0.13	0.33	0.13	0.33	0.13	0.33
White (ref)	0.82	0.38	0.83	0.38	0.82	0.38
Race, other	0.09	0.28	0.08	0.28	0.09	0.28
Income, under \$15k	0.12	0.32	0.11	0.31	0.12	0.32
Income, \$15k – \$25k	0.09	0.28	0.09	0.29	0.09	0.29
Income, \$25k – \$35k	0.10	0.30	0.11	0.31	0.09	0.29
Income, \$35k – \$50k	0.14	0.35	0.13	0.34	0.12	0.33
Income, \$50k – \$75k	0.19	0.39	0.18	0.39	0.18	0.38
Income, \$75k – \$100k (ref)	0.12	0.33	0.13	0.34	0.14	0.34
Income, \$100k – \$150k	0.13	0.34	0.14	0.34	0.14	0.35
Income, \$150k+	0.10	0.30	0.11	0.32	0.12	0.33
HispLatino	0.13	0.34	0.13	0.34	0.13	0.34
Less than high school	0.06	0.24	0.05	0.23	0.06	0.23
High school degree	0.32	0.47	0.33	0.47	0.33	0.47
Some college	0.27	0.44	0.26	0.44	0.26	0.44
Bachelor's degree (ref)	0.21	0.40	0.20	0.40	0.20	0.40
Graduate degree	0.15	0.35	0.15	0.36	0.16	0.36
Married (ref)	0.61	0.49	0.62	0.49	0.62	0.49
Divorced	0.20	0.40	0.20	0.40	0.20	0.40
Separated	0.02	0.15	0.02	0.15	0.02	0.15
Widowed	0.06	0.24	0.05	0.23	0.06	0.23
Never married	0.11	0.31	0.10	0.31	0.11	0.31
Working (ref)	0.53	0.50	0.52	0.50	0.52	0.50
Not working	0.47	0.50	0.48	0.50	0.48	0.50

Note: Authors' calculations using UAS data; N = 2,279 (see text).

To test whether and how financial resilience differed across respondents, Table 3 reports marginal effects estimated from three multivariate linear regression models, where the dependent variable is the respondent's total positive responses to the resilience index questions that year. Several results are as anticipated. For instance, people who scored one unit higher on the FinLit Index were 10% more likely to be financially resilient in 2020, and the estimate is

highly statistically significant. The relationship also remains significantly positive albeit somewhat smaller during the pandemic (8% and 4% in 2021 and 2022, respectively). Older persons and those with higher income were also more resilient: that is, compared to the reference income category (\$75,000–\$99,999), households with less than this amount reported lower resilience scores in all three years, and the effect was more negative at lower levels of income.

**TABLE 3. FACTORS ASSOCIATED WITH FINANCIAL RESILIENCE INDEX IN THE UAS BY YEAR**

Variables	2020	2021	2022
FinLit Index	0.448*** (0.059)	0.366*** (0.057)	0.194 (0.053)
Age	0.036*** (0.006)	0.052*** (0.006)	0.033 (0.005)
Female	-0.131 (0.091)	0.036 (0.085)	0.038 (0.079)
HispLatino	0.100 (0.176)	0.049 (0.157)	-0.018 (0.145)
Black	-0.147 (0.168)	0.118 (0.150)	-0.001 (0.135)
Race, other	-0.467*** (0.170)	-0.274* (0.143)	0.087 (0.128)
Income under \$15,000	-0.957*** (0.210)	-0.834*** (0.214)	-0.651 (0.198)
Income \$15,000 – \$24,999	-0.687*** (0.222)	-0.754*** (0.190)	-0.165 (0.161)
Income \$25,000 – \$34,999	-0.571*** (0.187)	-0.401** (0.170)	-0.387 (0.153)
Income \$35,000 – \$49,999	-0.500*** (0.160)	-0.301** (0.152)	-0.172 (0.134)
Income \$50,000 – \$74,999	-0.286* (0.151)	-0.093 (0.140)	-0.085 (0.112)
Income \$100,000 – \$149,999	0.193 (0.159)	0.138 (0.141)	-0.070 (0.126)
Income \$150,000+	0.419** (0.183)	0.241 (0.161)	0.024 (0.129)
High school only	0.340 (0.239)	0.477** (0.234)	0.317 (0.233)
Some college	0.481** (0.243)	0.564** (0.236)	0.416 (0.231)
Bachelor's degree	0.486* (0.256)	0.576** (0.241)	0.248 (0.236)
Graduate degree	0.682** (0.269)	0.810*** (0.252)	0.369 (0.248)
Divorced	-0.035 (0.126)	-0.061 (0.118)	0.067 (0.110)
Separated	0.180 (0.271)	0.144 (0.283)	0.079 (0.259)

**TABLE 3. FACTORS ASSOCIATED WITH FINANCIAL RESILIENCE INDEX IN THE UAS BY YEAR (CONTINUED)**

Variables	2020	2021	2022
Widowed	-0.052 (0.177)	0.003 (0.170)	0.056 (0.187)
Never married	-0.020 (0.164)	-0.212 (0.160)	0.063 (0.148)
Not working	-0.008 (0.102)	0.476*** (0.102)	0.401*** (0.098)
Constant	1.391*** (0.433)	0.136 (0.411)	2.048*** (0.385)
<i>N</i>	2,279	2,279	2,279
<i>R</i> <sup>2</sup>	0.24	0.25	0.12
<i>Mean of dep. var.</i>	4.50	4.56	4.82
<i>SD of dep. var.</i>	1.84	1.76	1.50

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . OLS estimates. Authors' calculations using UAS data;  $N = 2,279$  (see text).

We also see that older respondents were statistically significantly more resilient than their younger counterparts, with resilience rising by about 1% per year of age. Another finding of particular interest is that being more financially literate was associated with greater resilience: specifically, a one unit increase in the financial literacy index in 2020 was associated with about 10% greater resilience relative to the mean of 4.5. The impact of financial literacy on the resilience index in 2021–20 remained positive and significant, if a bit lower. One surprising finding given recent research on wealth gaps by race/ethnicity (e.g., Bhutta et al., 2020; Thomas, 2021) is that financial resilience of Black and Hispanic respondents did not differ from that of white respondents in any of the years, controlling on other factors in the model.<sup>6</sup>

While most of the estimated effects in Table 3 are comparable across years, a few are worthy of particular note. Specifically, those not working were scored as

being significantly more resilient in the two later years, a change that likely reflected the enhanced generosity of unemployment benefits during the pandemic.

To further examine the resilience index stability during the pandemic, in Table 4 we present estimated marginal effects from a multinomial logit model where the dependent variable indicates whether the index increased, decreased, or remained the same across pairs of years. Significant findings indicate that older respondents were more likely to show increased resilience and less likely to become more vulnerable between 2020 and 2021, yet the reverse held between 2021 and 2022. Given the relatively small change in the year-to-year value of the index, it is not surprising that relatively few significant effects were uncovered, however.

6 This is similar to findings by race and ethnicity reported by Clark et al. (2021) using an alternative measure, the CFPB (2015) financial well-being score.

**TABLE 4. FACTORS ASSOCIATED WITH CHANGE IN FINANCIAL RESILIENCY INDEX IN THE UAS ACROSS PANDEMIC YEARS**

	2021 to 2020			2022 to 2021		
	Decreased	Unchanged	Increased	Decreased	Unchanged	Increased
FinLit Index	0.033*	0.021	-0.054***	0.012	0.028*	-0.040**
	(0.017)	(0.017)	(0.017)	(0.016)	(0.015)	(0.017)
Age	-0.008***	0.003*	0.005***	0.006***	0.001	-0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Female	-0.049*	0.022	0.027	-0.033	0.046**	-0.013
	(0.028)	(0.025)	(0.028)	(0.026)	(0.023)	(0.029)
Black	-0.006	-0.065	0.071	0.006	-0.001	-0.006
	(0.045)	(0.040)	(0.048)	(0.043)	(0.040)	(0.046)
Race, other	-0.049	-0.047	0.096*	-0.063	-0.053	0.116**
	(0.046)	(0.041)	(0.053)	(0.041)	(0.038)	(0.048)
Income under \$15,000	-0.034	0.000	0.035	-0.072	-0.010	0.082
	(0.061)	(0.056)	(0.063)	(0.054)	(0.057)	(0.066)
Income \$15,000 – \$24,999	0.064	-0.049	-0.016	-0.124***	0.018	0.106*
	(0.064)	(0.053)	(0.059)	(0.046)	(0.056)	(0.063)
Income \$25,000 – \$34,999	-0.040	-0.039	0.079	-0.012	-0.021	0.033
	(0.056)	(0.052)	(0.060)	(0.052)	(0.048)	(0.058)
Income \$35,000 – \$49,999	-0.024	-0.030	0.054	-0.086**	0.062	0.024
	(0.049)	(0.045)	(0.053)	(0.043)	(0.049)	(0.054)
Income \$50,000 – \$74,999	-0.028	-0.051	0.079*	-0.051	0.046	0.005
	(0.044)	(0.039)	(0.047)	(0.040)	(0.044)	(0.048)
Income \$100,000 – \$149,999	0.030	-0.011	-0.019	0.035	-0.017	-0.018
	(0.048)	(0.044)	(0.048)	(0.046)	(0.041)	(0.051)
Income \$150,000 or higher	0.101*	0.016	-0.117**	0.072	0.042	-0.115**
	(0.054)	(0.050)	(0.049)	(0.052)	(0.050)	(0.054)
HispLatino	0.025	0.033	-0.058	-0.028	0.094**	-0.066
	(0.049)	(0.046)	(0.047)	(0.045)	(0.047)	(0.050)
High school only	0.006	-0.076	0.070	0.111	-0.059	-0.052
	(0.072)	(0.059)	(0.072)	(0.083)	(0.059)	(0.074)
Some college	0.018	-0.067	0.049	0.128	-0.046	-0.082
	(0.074)	(0.059)	(0.072)	(0.085)	(0.060)	(0.073)
Bachelor's degree	0.002	-0.072	0.070	0.182**	-0.075	-0.107
	(0.077)	(0.061)	(0.078)	(0.091)	(0.058)	(0.076)
Graduate degree	-0.024	-0.047	0.071	0.208**	-0.075	-0.133*
	(0.078)	(0.065)	(0.084)	(0.095)	(0.060)	(0.078)
Divorced	0.034	-0.050	0.017	-0.012	-0.063**	0.076**
	(0.037)	(0.033)	(0.037)	(0.034)	(0.030)	(0.038)
Separated	0.159	-0.095	-0.064	0.025	0.009	-0.034
	(0.099)	(0.078)	(0.087)	(0.100)	(0.083)	(0.101)



**TABLE 4. FACTORS ASSOCIATED WITH CHANGE IN FINANCIAL RESILIENCY INDEX IN THE UAS ACROSS PANDEMIC YEARS (CONTINUED)**

	2021 to 2020			2022 to 2021		
	Decreased	Unchanged	Increased	Decreased	Unchanged	Increased
Widowed	0.030 (0.066)	-0.060 (0.052)	0.030 (0.059)	0.036 (0.059)	-0.159*** (0.031)	0.124** (0.060)
Never married	0.016 (0.049)	0.051 (0.047)	-0.067 (0.047)	-0.028 (0.045)	0.003 (0.042)	0.026 (0.050)
Not working	-0.117*** (0.030)	0.046 (0.029)	0.071** (0.031)	0.015 (0.029)	-0.012 (0.028)	-0.003 (0.033)
<i>N</i>			2,279			2,279
<i>Pseudo R2</i>			0.05			0.04
<i>Mean of dep. var.</i>			2.02			2.13
<i>SD of dep. var.</i>			0.85			0.86

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Robust standard errors in parentheses. Unchanged as reference level.

## Financial fragility in the older population

Next, we assess how financial fragility changed over the pandemic period, as measured by people being unable to cover unexpected expenses of \$2,000. Initially, in 2020, around one-fifth (22%) of respondents said they would not or probably would not be able to adequately respond to an unexpected bill of this magnitude. Therefore, it is somewhat surprising, that after a year of facing health crises and economic turmoil, financial fragility measured by the same \$2,000 question had actually *fallen* slightly: only 20% of the same respondents responded negatively to the \$2,000 unexpected bill question. By 2022, a year later, the financially fragile percentage rose back to 22%. The improvement in financial resilience between 2020 and 2021 was most likely due to stimulus and unemployment benefit checks provided during this period; by 2022, most of these stimulus programs had ended.

To assess which factors were associated with financial fragility at baseline and into the pandemic, we report marginal effects from a multivariate probit model in Table 5, using the same control variables as before. Here too, the effects are generally consistent across the three years. Older persons were less fragile, as were better-educated and higher-income households. People scoring higher on the FinLit index questions were less financially fragile, though the effect was only statistically significant in the 2022 survey wave. Rather unexpectedly, given media reports, Black respondents did not report themselves to be significantly more financially fragile than their White counterparts, while Hispanic respondents now were significantly more fragile than White households. Divorced/separated respondents were more fragile than their married counterparts. The analysis also indicates that females were not significantly more fragile than men and the proportion of women who were fragile did not increase during the pandemic.<sup>7</sup>

7 Couch et al. (2022) find that the major impact of COVID-19 on women fell on married women with school age children..

TABLE 5. FACTORS ASSOCIATED WITH FINANCIAL FRAGILITY IN THE UAS BY YEAR

Variables	2020	2021	2022
FinLit Index	-0.013 (0.013)	-0.010 (0.012)	-0.026** (0.012)
Age	-0.008*** (0.002)	-0.004*** (0.001)	-0.006*** (0.001)
Female	0.036 (0.023)	0.005 (0.021)	0.023 (0.022)
Black	0.033 (0.038)	-0.001 (0.031)	0.051 (0.038)
Race, other	0.041 (0.042)	-0.016 (0.032)	0.017 (0.037)
Income under \$15,000	0.540*** (0.078)	0.367*** (0.081)	0.355*** (0.074)
Income \$15,000 – \$24,999	0.522*** (0.079)	0.318*** (0.077)	0.330*** (0.075)
Income \$25,000 – \$34,999	0.378*** (0.083)	0.244*** (0.070)	0.189*** (0.067)
Income \$35,000 – \$49,999	0.219*** (0.074)	0.108* (0.056)	0.109** (0.055)
Income \$50,000 – \$74,999	0.180*** (0.066)	0.070 (0.048)	0.062 (0.048)
Income \$100,000-\$149,999	0.055 (0.062)	-0.079** (0.034)	-0.046 (0.041)
Income \$150,000 or higher	-0.052 (0.054)	-0.106*** (0.032)	-0.115*** (0.034)
High school only	-0.032 (0.046)	-0.076** (0.038)	-0.065 (0.041)
Some college	-0.020 (0.047)	-0.072* (0.038)	-0.055 (0.041)
Bachelor's degree	-0.047 (0.049)	-0.104*** (0.034)	-0.078* (0.040)
Graduate degree	-0.033 (0.053)	-0.112*** (0.032)	-0.109*** (0.036)
HispLatino	0.152*** (0.051)	0.072* (0.042)	0.118** (0.048)
Divorced	0.081** (0.033)	0.063** (0.031)	0.063** (0.032)
Separated	0.295*** (0.089)	0.253*** (0.094)	0.192** (0.086)
Widowed	0.006 (0.052)	0.054 (0.048)	0.099* (0.056)
Never married	0.039 (0.040)	0.052 (0.038)	0.071* (0.041)
Not working	0.039 (0.026)	-0.010 (0.024)	0.040 (0.025)
<i>N</i>	2,279	2,279	2,279
<i>Pseudo R2</i>	0.24	0.21	0.23
<i>Mean of dep. var.</i>	0.22	0.20	0.22
<i>SD of dep. var.</i>	0.42	0.40	0.41

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Marginal effects reported from a multinomial probit model. Authors' calculations using UAS data (see text).

One question of potential policy interest is whether peoples' financial resilience at one point in time was related to their financial fragility in the future, and if so, how. To examine this, we relate peoples' reported resilience scores prepandemic (2020) to their subsequent (2021 and 2022) fragility scores, controlling on the other factors previously included; marginal estimates from a probit model are provided in Table 6. Here we see that household baseline resilience scores were negatively and significantly related to their pandemic levels of financial fragility. Specifically, we find that a one unit increase in the resilience index in 2020 was associated with a 3.4 percentage point lower chance of being financially

fragile one year later, and a 3.8 percentage point lower likelihood of being fragile in 2022. Measured at the mean of the fragility index, this translates into a 17.0% smaller chance of being unable to handle a \$2,000 unexpected expense in 2021, and a comparable (17.3%) reduction the following year. We recognize that the association might not be causal, in that fragility could, in turn, affect resilience. Nevertheless, it is interesting that financial resilience was an important factor associated with peoples' ability to weather economic shocks associated with the pandemic and avoiding becoming financially fragile during the economic downturn.<sup>8</sup>

**TABLE 6. FACTORS ASSOCIATED WITH FINANCIAL FRAGILITY IN THE UAS: IMPACT OF 2020 RESILIENCE BY YEAR**

	2021	2022
2020 Resilience index	-0.034*** (0.006)	-0.038*** (0.006)
FinLit Index	0.012 (0.012)	0.009 (0.013)
Age	-0.003* (0.001)	-0.004** (0.001)
Female	0.002 (0.021)	0.020 (0.022)
Black	-0.001 (0.030)	0.059 (0.036)
Race, other	-0.027 (0.029)	-0.003 (0.033)
Income under \$15,000	0.341*** (0.080)	0.368*** (0.080)
Income \$15,000 – \$24,999	0.283*** (0.075)	0.337*** (0.078)
Income \$25,000 – \$34,999	0.215*** (0.068)	0.179*** (0.067)
Income \$35,000 – \$49,999	0.085 (0.052)	0.145** (0.060)
Income \$50,000 – \$74,999	0.059 (0.045)	0.075 (0.050)
Income \$100,000 – \$149,999	-0.069** (0.035)	-0.047 (0.043)
Income \$150,000 or higher	-0.090*** (0.034)	-0.077* (0.042)

8 In results available on request, we pooled data from all three years and included year dummies interacted with the 2020 index score. The year-specific interactive terms were not statistically significant, confirming that the relationship between financial fragility and the household's resilience score remained constant over time.

**TABLE 6. FACTORS ASSOCIATED WITH FINANCIAL FRAGILITY IN THE UAS: IMPACT OF 2020 RESILIENCE BY YEAR (CONTINUED)**

	2021	2022
High school only	-0.061 (0.039)	-0.055 (0.043)
Some college	-0.057 (0.038)	-0.051 (0.042)
Bachelor's degree	-0.093*** (0.035)	-0.079* (0.041)
Graduate degree	-0.098*** (0.034)	-0.098*** (0.038)
HispLatino	0.076* (0.041)	0.140*** (0.048)
Divorced	0.061** (0.031)	0.049 (0.032)
Separated	0.259*** (0.093)	0.247*** (0.093)
Widowed	0.050 (0.047)	0.100* (0.057)
Never married	0.048 (0.037)	0.063 (0.040)
Not working	-0.013 (0.023)	0.019 (0.025)
<i>N</i>	2,279	2,279
<i>Pseudo R2</i>	0.24	0.25
<i>Mean of dep. var.</i>	0.20	0.22
<i>SD of dep. var.</i>	0.40	0.41

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Marginal effects reported from a multinomial probit model. Authors' calculations using UAS data (see text).

## Financial resilience and the choice of pension distributions

In this section, we examine the pension distribution choices of respondents surveyed in the 2021 UAS survey described earlier, to determine whether their payout choices depended on their financial resilience index. This is an important decision, since during their working years, many individuals accumulate assets in employer-provided retirement plans. At retirement, participants make one of the most important financial decisions they will ever confront, namely how they will deploy their pension assets to finance retirement consumption. Some retirees can take benefits as lifetime annuities, whereas in other cases they may take a lump-sum distribution from their plans. Moreover, the distribution options differ depending on whether the worker was covered by a defined benefit (DB) or a defined contribution (DC) plan. While the distribution option chosen depends on peoples' time preferences, other wealth, age, and marital

status, it could also depend on their overall preparedness as measured by our resilience index. We also explore distribution decisions separately for people who either plan to receive or have received a distribution from a DB versus a DC plan. Additionally, in some cases, retirees may have both plan types so they could select a different payout option from each.<sup>9</sup>

9 Clark et al. (2019) showed that individuals covered by a DB plan can be encouraged to increase their level of contributions to a supplemental DC plan. Similarly, Clark, Lusardi and Mitchell (2017) found that greater levels of financial literacy contributed to participation in and contributions to DC plans.

## Patterns of pension coverage

While pension distribution choices can vary with retiree preferences for annuities, they also depend on how the payout choices are framed by the plan sponsor, and what the sponsor selects as the plan payout default options—that is, how benefits will be paid if the retiree does not make an active choice. To examine patterns of pension distributions, we next report the results of multivariate regression models linking actual/anticipated payouts by our survey respondents.<sup>10</sup> Controls include age, race/ethnicity indicators, levels of schooling, female, currently married, income, degree of impatience, and the financial literacy index described above. Descriptive statistics show that DC participants were more likely to be Hispanic and female, less educated, and lower income (see Appendix Table 1). These differences in demographic and economic characteristics may explain why DC participants were less likely to request an annuity at retirement.<sup>11</sup>

## Worker knowledge of pension plan type

Respondents in the UAS378 module were asked whether they had received or expected to receive a pension distribution. Those responding yes were then asked about the type of plan providing such a distribution. Of the 1,493 individuals expecting to receive/who already received a pension benefit, 363 did not know whether they were covered by a DB or a DC plan. To explore further which respondents with a retirement plan did know what type of pension plan they expected a distribution from versus those who did not, we estimated an auxiliary multinomial probit model (see Appendix Table 2). Not surprisingly, only 15% of pension

participants did not know the type of distribution they had received or expected to receive from their plans. Overall, financial literacy was positively and significantly predictive of people knowing about their retirement plans. Each additional literacy question answered correctly was associated with an 11.4 percentage point smaller chance of not knowing the plan type. Measured against the mean of 26% not knowing their plan type, therefore, the more financially literate were far more informed about their retirement plans. Additionally, we found those who were higher paid and better educated were also more aware. People scoring higher on the financial resilience index were also significantly less likely to be unaware of what type of pension plan covered them. For example, a one unit increase in the 2020 resilience index was associated with a lower chance of not knowing one's pension type by 3.3 percentage points, or 12.2% at the mean.

## Distribution choices of pension-covered workers

Finally, we evaluate the factors associated with peoples' pension distribution choices, so we then limited attention to the 1,130 pension participants who reported that they were covered only by a DB plan, a DC plan, or both. The analysis allowed distributions to differ by plan coverage and according to whether the distribution had already been paid or was anticipated, using controls indicating only DB plan coverage, DC coverage, or both, and whether the benefit had already been received or was anticipated. The reference category is DB received. Dependent variables of interest included received/expected an annuity (either single life or joint life),<sup>12</sup> some other type of distribution, or an unknown type of distribution. Again, marginal effects are reported in Table 7.

10 This analysis uses a sample of 1,499 respondents to UAS378 indicating that they were covered by a pension. One respondent was deleted due to the individual not answering all questions necessary to calculate his rate of impatience.

11 Also, since Social Security replacement rates are higher for those with lower incomes, these retirees may not desire additional life annuities at the margin.

12 For individuals covered by both DB and DC plans, the respondent is given a value of one for an annuity in the regression. Table 8 shows that of the 211 individuals covered by both plans 144 selected an annuity. Of those choosing an annuity, 120 received an annuity from the DB plan and 18 chose an annuity from both plans while only 6 dually covered individuals chose an annuity from the DC plan and another type of distribution from the DB plan.

**TABLE 7. FACTORS ASSOCIATED WITH TYPE OF PENSION DISTRIBUTION FOR UAS RESPONDENTS WITH A DB PLAN, A DC PLAN, OR BOTH**

	<b>Don't know</b>	<b>Other</b>	<b>Annuity</b>
DC received	0.050 (0.059)	0.407*** (0.062)	-0.457*** (0.035)
Both received	-0.030 (0.071)	0.103 (0.088)	-0.074 (0.066)
DB expected	0.064 (0.091)	-0.244*** (0.092)	0.180** (0.092)
DC expected	0.352*** (0.097)	0.102 (0.096)	-0.455*** (0.038)
Both expected	0.093 (0.108)	-0.157 (0.099)	0.065 (0.093)
2020 Resilience index	-0.003 (0.007)	-0.028* (0.015)	0.031** (0.015)
FinLit Index	-0.041** (0.021)	0.056 (0.041)	-0.015 (0.042)
Age	-0.004* (0.002)	-0.009*** (0.003)	0.013*** (0.003)
Female	0.036 (0.031)	-0.013 (0.050)	-0.022 (0.052)
Black	-0.047 (0.033)	0.068 (0.093)	-0.021 (0.096)
Race, other	-0.037 (0.039)	-0.099 (0.089)	0.136 (0.100)
Income under \$50,000	0.007 (0.036)	0.091 (0.063)	-0.098 (0.063)
Income \$100,000 – \$149,999	-0.064** (0.028)	-0.013 (0.065)	0.077 (0.066)
Income \$150,000 or higher	-0.062** (0.028)	0.072 (0.063)	-0.010 (0.063)
HispLatino	0.003 (0.051)	0.044 (0.105)	-0.047 (0.113)
Some college	0.020 (0.040)	-0.169** (0.068)	0.149** (0.076)
Bachelor's degree or more	0.016 (0.037)	-0.044 (0.064)	0.028 (0.065)
Married	0.015 (0.033)	0.064 (0.055)	-0.078 (0.056)
Impatience score	0.058 (0.048)	0.046 (0.087)	-0.103 (0.088)
<i>N</i>			1,130
<i>Pseudo R2</i>			0.28
<i>Mean of dep. var.</i>			1.25
<i>SD of dep. var.</i>			0.70

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Marginal effects reported from a multinomial logit model. Authors' calculations using UAS data (see text).

Relative to having already received a DB distribution (the reference case), workers electing a DC distribution were 45.6 percentage points less likely to have chosen an annuity, and 45.6 percentage points less likely to anticipate a future annuity. Moreover, those expecting a DB distribution were 18 percentage points more likely to anticipate an annuity, compared to DB participants who had already taken a distribution. These results indicate the substantial differences in distribution choices by plan type, holding respondent other characteristics constant, and allowing the responses to vary according to plan type. Individuals with higher financial resilience scores were also more likely to have chosen an annuity. The importance of being resilient for the choice of selecting an annuity is shown in Table 7. The estimates indicate that a one-unit increase in the resiliency index increases the probability of an individual selecting an annuity by 3.1 percentage points.

A related question is whether the degree of resilience affects individuals differentially by the type of pension plan in which they participate. To address this question, we estimate the distribution model separately for respondents covered by a DB plan only (Table 8), a DC plan only (Table 9), and for persons covered by both a DB and a DC plan (Table 10). The estimates indicate that being more resilient increases the probability of selecting an annuity by DC only participants, while it has no significant effect on the choices of DB only participants. Finally, among individuals with both types of plans, a one-unit increase in the resilience index raises the probability of selecting an annuity by 4.8 percentage points.

TABLE 8. DISTRIBUTION CHOICES BY DB PARTICIPANTS

	Don't know	Other	Annuity
DB expected	0.000 (0.006)	-0.176*** (0.066)	0.176*** (0.067)
2020 Resilience index	-0.002 (0.002)	0.015 (0.018)	-0.013 (0.018)
FinLit Index	-0.006* (0.003)	0.052 (0.047)	-0.046 (0.048)
Age	-0.001** (0.000)	-0.013*** (0.005)	0.014*** (0.005)
Female	-0.001 (0.007)	0.059 (0.061)	-0.059 (0.061)
Black	0.001 (0.011)	0.086 (0.130)	-0.088 (0.132)
Race, other	-0.021** (0.008)	-0.020 (0.107)	0.041 (0.107)
Income under \$50,000	0.006 (0.008)	0.192** (0.096)	-0.198** (0.096)
Income \$100,000 – \$149,999	-0.007 (0.004)	-0.039 (0.069)	0.046 (0.069)
Income \$150,000 or higher	-0.013*** (0.005)	-0.096 (0.068)	0.109 (0.069)
HispLatino	0.005 (0.014)	0.269 (0.184)	-0.274 (0.185)
Some college	-0.003 (0.007)	-0.006 (0.080)	0.009 (0.080)
Bachelor's degree or more	0.008 (0.008)	-0.022 (0.083)	0.014 (0.083)
Married	0.001 (0.005)	0.041 (0.060)	-0.042 (0.060)
Impatience score	-0.005 (0.009)	0.050 (0.102)	-0.045 (0.102)
<i>N</i>			408
<i>Pseudo R2</i>			0.14
<i>Mean of dep. var.</i>			1.68
<i>SD of dep. var.</i>			0.56

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Marginal effects reported from a multinomial logit model. Authors' calculations using UAS data (see text).



TABLE 9. DISTRIBUTION CHOICES BY DC PARTICIPANTS

	Don't know	Other	Annuity
DC expected	0.327*** (0.055)	-0.346*** (0.057)	0.019 (0.022)
2020 Resilience index	0.011 (0.015)	-0.024 (0.016)	0.013* (0.006)
FinLit Index	-0.055 (0.038)	0.028 (0.041)	0.027 (0.018)
Age	-0.003 (0.004)	0.000 (0.004)	0.003** (0.001)
Female	0.066 (0.054)	-0.071 (0.057)	0.005 (0.023)
Black	-0.074 (0.066)	0.033 (0.083)	0.041 (0.052)
Race, other	-0.056 (0.066)	-0.046 (0.099)	0.102 (0.080)
Income under \$50,000	0.002 (0.065)	-0.017 (0.068)	0.015 (0.027)
Income \$100,000 – \$149,999	-0.080 (0.058)	0.095 (0.066)	-0.015 (0.028)
Income \$150,000 or higher	-0.089 (0.054)	0.174*** (0.057)	-0.085*** (0.020)
HispLatino	-0.009 (0.080)	-0.100 (0.102)	0.109 (0.068)
Some college	0.120 (0.078)	-0.222*** (0.081)	0.102* (0.057)
Bachelor's degree or more	0.023 (0.071)	-0.058 (0.075)	0.035 (0.033)
Married	0.005 (0.064)	0.028 (0.068)	-0.033 (0.028)
Impatience score	0.092 (0.091)	-0.069 (0.097)	-0.023 (0.041)
<i>N</i>			512
<i>Pseudo R2</i>			0.16
<i>Mean of dep. var.</i>			0.86
<i>SD of dep. var.</i>			0.57

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Marginal effects, standard errors in parentheses.

TABLE 10. DISTRIBUTION CHOICES BY INDIVIDUALS WITH BOTH DB AND DC PLANS

	Don't know	Other	Annuity
2020 Resilience index	-0.001 (0.001)	-0.048* (0.029)	0.048* (0.029)
FinLit Index	-0.003 (0.002)	0.053 (0.082)	-0.050 (0.082)
Age	0.000 (0.005)	-0.006 (0.005)	0.006 (0.005)
Female	0.001 (0.005)	-0.010 (0.100)	0.008 (0.100)
Black	-0.009** (0.004)	0.008 (0.216)	0.001 (0.216)
Race, other	0.009 (0.015)	-0.144 (0.106)	0.135 (0.107)
Income under \$50,000	-0.003 (0.003)	0.177 (0.149)	-0.175 (0.149)
Income \$100,000 – \$149,999	-0.003 (0.002)	-0.172 (0.105)	0.175* (0.105)
Income \$150,000 or higher	-0.003 (0.003)	0.001 (0.119)	0.002 (0.119)
Hispanic	-0.012** (0.005)	0.252 (0.194)	-0.240 (0.194)
Some college	-0.004** (0.002)	-0.056 (0.138)	0.060 (0.139)
Bachelor's degree or more	-0.004 (0.004)	-0.011 (0.153)	0.014 (0.154)
Married	0.003 (0.002)	0.043 (0.105)	-0.046 (0.105)
Impatience score	-0.001 (0.004)	0.165 (0.169)	-0.164 (0.170)
<i>N</i>			210
<i>Pseudo R2</i>			0.13
<i>Mean of dep. var.</i>			1.59
<i>SD of dep. var.</i>			0.60

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Marginal effects, standard errors in parentheses.

## Conclusions

This paper tests whether financial resilience is importantly associated with older Americans' economic well-being, using a panel dataset covering the COVID-19 pandemic. We show that the measure varies according to household characteristics: individuals who are older and better educated and who have higher income are significantly more likely to score well on the resilience index. We also find that more financially literate people are more financially resilient, suggesting that investing in financial literacy can boost older households' financial well-being. Additionally, more resilient older households covered by pensions prefer retirement income annuities instead of lump sum distributions. And, finally, financial literacy is associated with more knowledge about pension plans and pension distributions.

As a result, our findings imply that policies and programs that enhance financial resilience are likely to help older households withstand unexpected shocks, as experienced during the pandemic. Moreover, boosting financial literacy could enable greater financial preparedness, help people build information about their retirement plans, and potentially result in reducing the chance of being financially fragile in later life. While the links between resilience and literacy will require further examination, it is highly probable that boosting financial resilience and literacy could do much to enhance retirement well-being.

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APPENDIX TABLE 1. MEANS AND STANDARD DEVIATIONS OF EXPLANATORY VARIABLES IN THE UAS

Variable	No Pension		DB only		DC only		Both DB and DC		Don't know	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	58.77	8.37	61.91	8.31	58.60	7.98	60.11	9.10	59.68	8.33
Age when distribution received or expected			58.99	8.59	60.52	10.15	60.53	9.02	63.90	5.10
Black	0.13	0.33	0.10	0.30	0.10	0.30	0.07	0.26	0.14	0.35
White	0.81	0.39	0.89	0.32	0.84	0.37	0.87	0.33	0.82	0.38
Race, others	0.10	0.30	0.06	0.24	0.07	0.26	0.09	0.29	0.07	0.26
HispLatino	0.15	0.36	0.05	0.22	0.12	0.33	0.10	0.30	0.16	0.37
High school or less	0.49	0.50	0.25	0.43	0.27	0.45	0.20	0.40	0.41	0.49
Some college	0.25	0.44	0.23	0.42	0.27	0.44	0.21	0.41	0.34	0.47
Bachelor's degree or higher	0.26	0.44	0.52	0.50	0.46	0.50	0.59	0.49	0.25	0.43
Male	0.39	0.49	0.63	0.48	0.56	0.50	0.68	0.47	0.40	0.49
Female	0.61	0.49	0.37	0.48	0.44	0.50	0.32	0.47	0.60	0.49
Married	0.56	0.50	0.71	0.46	0.65	0.48	0.70	0.46	0.63	0.48
Not married	0.44	0.50	0.29	0.46	0.35	0.48	0.30	0.46	0.37	0.48
Income, under \$50k	0.60	0.49	0.23	0.42	0.29	0.46	0.23	0.42	0.46	0.50
Income, \$50k-\$100k	0.25	0.43	0.39	0.49	0.37	0.48	0.34	0.47	0.37	0.48
Income, \$100k-\$150k	0.08	0.28	0.22	0.41	0.17	0.38	0.19	0.40	0.10	0.30
Income, \$150k+	0.07	0.25	0.16	0.36	0.16	0.37	0.24	0.43	0.07	0.25
FinLit index	1.94	1.00	2.67	0.60	2.57	0.76	2.62	0.69	1.89	1.07
Impatience	0.43	0.33	0.29	0.27	0.33	0.29	0.30	0.28	0.41	0.32
Resilience index 2020	4.13	1.77	5.30	1.69	5.01	1.69	5.24	1.75	4.24	1.61
Resilience index 2021	4.26	1.64	5.23	1.46	4.85	1.54	5.23	1.58	4.60	1.74
N	857		408		512		210		363	

Note: Authors' calculations using UAS data (see text).

APPENDIX TABLE 2. FACTORS ASSOCIATED WITH NOT KNOWING RETIREMENT PLAN TYPE IN THE UAS

	DK Type of Plan	DK Type of Distribution
2020 Resilience index	-0.033*** (0.009)	-0.001 (0.008)
FinLit Index	-0.114*** (0.020)	-0.037* (0.020)
Age	0.001 (0.002)	-0.008*** (0.002)
Female	0.115*** (0.032)	0.056* (0.029)
Black	0.007 (0.051)	-0.038 (0.042)
Race, other	0.037 (0.062)	-0.004 (0.047)
Income under \$50,000	0.027 (0.038)	-0.013 (0.035)
Income \$100,000 – \$149,999	-0.073* (0.040)	-0.058** (0.030)
Income \$150,000 or higher	-0.081* (0.043)	-0.052* (0.032)
HispLatino	0.064 (0.065)	0.048 (0.061)
Some college	0.005 (0.039)	0.008 (0.038)
Bachelor's degree or more	-0.058 (0.040)	0.006 (0.036)
Married	0.063* (0.034)	0.009 (0.033)
Impatience score	0.025 (0.053)	0.026 (0.049)
<i>N</i>	1,493	1,130
<i>Pseudo R2</i>	0.15	0.08
<i>Mean of dep. var.</i>	0.27	0.15
<i>SD of dep. var.</i>	0.44	0.35

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01 Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.  
Marginal effects reported from a multinomial probit model. Authors' calculations using UAS data (see text).

## About the authors

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This research was performed pursuant to a grant from the Institute of Consumer Money Management; the authors also acknowledge research support from the TIAA Institute as well as the Pension Research Council/Boettner Center at The Wharton School of the University of Pennsylvania. The authors thank Yong Yu for capable research assistance. Any opinions and conclusions expressed herein are solely those of the authors and do not represent the opinions or policy any institutions with which the authors are affiliated. ©2024 Clark and Mitchell. All rights reserved.

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GRE-3469942PR-00324X