The Use of Longitudinal Data on Social Security Program Knowledge

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Introduction

Federal agencies provide programs and services that promote the health, safety, and economic security of the American public. In order to benefit fully, the public must have adequate understanding of programs and services offered and how they operate. Since the 1990s, the Social Security Administration (SSA) has regularly evaluated public knowledge of its retirement and disability programs. Its most recent effort involves funding a longitudinal study of program knowledge through the Understanding America Survey (UAS). Through this longitudinal research, the agency may expand its understanding of program knowledge in a number of ways. These include:

- Understanding the dynamics of program knowledge and knowledge growth over the life course, as well as differences by population subgroup (e.g., educational level).
- Exploring what tools people use to learn about Social Security programs.
- Testing interventions to increase public knowledge about Social Security, and measuring the short and long-term effectiveness of these interventions.

In this paper, we present initial results from the first two waves of the program knowledge study. This research sheds light on how Social Security program knowledge and growth in knowledge vary across the lifecycle. We begin the paper by documenting historical efforts by SSA to gauge public knowledge. We then provide an overview of the UAS, highlighting the opportunities offered by the longitudinal study of program knowledge. After presenting initial results, we discuss next steps in the agency's use of the longitudinal study to understand public knowledge and tailor communication efforts effectively.

Literature Review

Along with pensions and private savings, Social Security forms one leg of the three-legged stool of retirement security (DeWitt 1996). For many, Social Security represents the primary source of retirement income (SSA 2016). Program knowledge thus plays an important role in retirement security. Understanding whether one is eligible for Social Security benefits, when to claim these benefits, and how much retirement income to expect affects work and savings decisions before retirement (Gustman & Steinmeier 1999; Rohwedder & van Soest 2006) —and in turn, the level of income in retirement. For a number of decades, SSA has made efforts to inform the public about its retirement and disability programs.

Past Efforts. In 1995, SSA undertook the largest effort in its 60-year history to inform the public about its retirement program through the Social Security *Statement*. The annual *Statement* provides projected estimates of monthly benefits that a worker will receive based on current law under the Social Security Act, as well as an explanation of these benefits. Along with the introduction of the Social Security *Statement*, SSA commissioned Gallup to conduct a series of cross-sectional surveys between 1998 and 2001, which gauged public knowledge of SSA programs. These surveys widely expanded the agency's understanding of Social Security program knowledge. For instance, Smith and Couch (2014)'s analysis of these Gallup surveys found that many younger workers understood the basics of the retirement and disability programs but did not understand how benefits were calculated.

The Gallup surveys also shed light on the effectiveness of the Social Security *Statement* in increasing program knowledge. Although the surveys were cross-sectional, researchers used the introduction of the *Statement*[1] as a natural experiment to test changes in population-level knowledge. Cook, Jacobs, and Kim (2010) found that the *Statement* increased knowledge. Meanwhile, Smith and Couch (2014) found that the *Statement* particularly improved knowledge among the population with low levels of education. Other scholars tested the effectiveness of the *Statement* using the Health and Retirement Study, which contains longitudinal data but limited measurement of program knowledge.[2] As with the Gallup-based studies, Mastroubouni (2011) found that the *Statement* increased knowledge. Conversely, Armour and Lovenheim (2016) found that some misunderstood the presentation of projected benefits. Biggs (2010) suggested further research after ambiguous findings about the effectiveness of the *Statement*.

In the late 2000s, SSA made further efforts to study program knowledge by funding research using Internet-based panel studies. Funded by an SSA Retirement Research Consortium grant, Liebman and Luttmer (2011) conducted a randomized-control trial with the Knowledge Networks Panel, in order to see how an informational intervention might affect retirement behavior. They found that sending a brochure with information about the retirement earnings test increased employment by 4 percentage points among men and by 7.2 percentage points among women ages 55-70. SSA also developed a program knowledge survey as part of the American Life Panel (Greenwald et al. 2010),[3] which yielded a large amount of information about program knowledge.

Understanding America Study. In its most recent effort, SSA has funded a program knowledge survey as part of the Understanding America Study (UAS). The UAS is an Internet-based panel, managed by the University of Southern California, which surveys a representative sample of approximately 6,000 households in the United States. Researchers use an address-based sample to recruit panel members, providing tablets and Internet access when needed. Panel members then have the option to participate in a number of surveys, which cover a wide range of topics and are nominally compensated for their participation. Researchers administer the Social Security program knowledge survey every two years on a rolling basis. The researcher's protocol is to administer the survey to all new panel members or any panel member that has not taken the survey for two years. Researchers use the U.S. Census Bureau's Current Population Survey (CPS) Annual Social and Economic Supplement as the benchmark for weighting. The reference population for the UAS pool of respondents is the U.S. population aged 18 and older, excluding military personnel and institutionalized individuals. For more information on the UAS, refer to Alattar, Messel, and Rogofsky (forthcoming).

The UAS offers a number of advantages in researching public knowledge and interaction with federal programs, such as Social Security:

- It provides a pre-constructed, nationally-representative panel, which saves time and money in recruitment and retention.
- Because of its Internet-based design, researchers may receive survey results within a matter of months.
- Unlike other longitudinal studies, the UAS allows investigators to add surveys and survey items to the UAS panel relatively easily.[4] This makes it possible for investigators to conduct randomized control trials.

[1] The agency staggered the introduction of the statement by age group, so that by 1999 all adults ages 25 and older received the *Statement*.

[2] To measure program knowledge in the Health and Retirement Study, research has generally tested whether an individual's expected Social Security benefit matches their projected benefit estimate (based on their earnings history). If the expected and projected benefit amount roughly aligns, this signals a high level of program knowledge.

[3] Along with the Internet-based survey, the researchers conducted a parallel telephone survey.

[4] The cost for fielding a survey is $3.00 per respondent per minute survey for the first 500 respondent, $2.50 for the next 500 respondents, and $2.00 for all additional respondents. An additional $2,000 is charged for data delivery,

- The UAS includes a wide array of survey data (e.g., Health and Retirement Study modules, financial literacy, personality), which is publicly available. Investigators may use these data to strengthen their studies by matching the datasets.

In this study, we use the first two waves of the Social Security program knowledge survey to expand on previous research on how the public understands the agency's programs. We address the following questions:

1. How knowledgeable is the population in basic aspects of Social Security? How does knowledge change over time?
2. How does knowledge and knowledge growth vary across the life course?
3. Within age groups, how do knowledge and change in knowledge vary by individual characteristics, such as education and financial literacy?

Methods

More than 5,000 UAS panel members have completed the first wave of the SSA program knowledge survey, which has a response rate of 85.4 percent. We restrict our sample to individuals ages 25-65, who have completed both the first and second waves of the survey. At the time of analysis, we have access to second wave data for the initial UAS sampling batch (1,279 panel members) only,[5] of whom 929 completed the first wave in 2015. Of these, 724 completed the second wave in 2017 (a response rate of 77.9 percent[6]). One concern is that the panel members who completed both waves differ in meaningful ways from those who completed only the first wave. If this is the case, then the measure of both knowledge and knowledge growth may be biased. Table 1 shows the demographic characteristics of the panel member who completed both survey waves, compared to those who completed only the first wave. Significant difference exist only in the age of the groups. Younger panel members (ages 25-35) are less likely to have completed both survey waves[7].

[Insert Table 1 Here]

This program knowledge survey covers two aspects of knowledge: (1) the understanding of Social Security program basics; and (2) the understanding of claiming ages and their effect on benefit amounts. In this study, we focus on basic knowledge. This portion includes nine questions, which we measure individually and as an index. Table 2 includes a list of Social Security knowledge concepts covered in the survey, associated question wording, as well as the response options and correct response.

[Insert Table 2 Here]

The study measures knowledge and knowledge growth for three age groups. These groups correspond with the age ranges for which different versions of the Social Security Statement are available: 25-35 (young workers), 36-54 (mid-career workers), and 55-65 (workers near retirement age). Within these age groups, we also investigate

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documentation production, and service after the project. For example, a 15-minute survey that is administered to 1,000 respondents would cost approximately $43,250. More information on the pricing of survey administration is available at https://cesr.usc.edu/sites/files/UAS_Brochure.pdf.

[5] The UAS panel consists of 21 sampling batches. This paper uses data from the ASDE 2014-01 Nationally Representative sample, the initial sampling batch. The second wave of program knowledge surveys for subsequent batches remain in the field or USC has not yet administered them. More information about each sampling batch may be found in the "Response and Attrition" section of the UAS website.

[6] Because this survey is still in the field, the final response rate may be higher than 77.9 percent.

[7] Within each age group, no significant differences on demographic and economic characteristics exist, with the exception of ethnicity/race in the 55-65 age group. Non-Hispanic Black respondents were slightly more likely than others were to complete both survey waves. Because changes in knowledge between waves do not vary by ethnicity/race, however, this difference may not bias the results.

variation by educational attainment (*high school degree or less* and *some college or more*[8]) and by level of financial literacy, as measured by a 14-item test of financial literacy in the UAS. This test is derived from questions developed by Lusardi and Mitchell (2017) and tests respondents' knowledge of annuities, IRAs, and life insurance policies, among other financial topics. *High financial literacy* represents a score at or above the median for the sample (10 of 14 correct), while *low financial literacy* represents a score below the median. In this study, we measure knowledge and knowledge growth through descriptive analyses.

Results

Table 3 shows relatively high levels of knowledge for many basic aspects of Social Security. For instance, more than 80 percent of respondents have knowledge of the availability of Social Security disability benefits, the adjustment of benefit amounts by age of claiming, the option to wait after retirement from work to claim benefits, the funding of Social Security through payroll taxes, and the availability of benefits for the children (under the age of 18) of beneficiaries. Americans have less understanding of other aspects of Social Security, however. Relatively few individuals understand that Social Security benefits adjust with inflation and that spousal benefits may be available, even if a couple had no children. Only one in five, when provided with a list of options, could explain how Social Security benefits are calculated.

[Insert Table 3 Here]

For most Social Security concepts, knowledge did not change significantly between waves (see Table 3, row 2). The population exhibits a significant increase in knowledge on some items, however. Knowledge about how benefits are calculated increased by more than 10 percentage points. Meanwhile, knowledge about age adjustment increased by 7 percentage points, and knowledge about disability benefits increased by 5 points. Although knowledge grew relatively uniformly across various program aspects, individuals were more likely to answer questions correctly in both waves for aspects in which population knowledge is high (see Table 3, row 3). Conversely, they were more likely to answer questions incorrectly in both waves for which population knowledge is low (see Table 3, row 4).

On average, respondents correctly answered 71.4 percent of questions in Wave 1 and 75.8 percent of questions in Wave 2.[9] Both knowledge and knowledge growth varied across the lifecycle, however. Figure 1 shows individuals ages 25-35 had the lowest levels of knowledge in both Waves 1 and 2, but exhibited a significant increase in knowledge between surveys. The middle age group (36-54) experienced a significant—although smaller—increase. Meanwhile, knowledge did not increase significantly among the group approaching retirement (ages 55-65).

[Insert Figure 1 Here]

Within age groups, knowledge and growth varied by educational attainment and financial literacy. Figure 2 shows that individuals with higher educational attainment generally have higher levels of Social Security knowledge[10]. Increases in knowledge do not vary significantly by education, however. Among the youngest group, both individuals who attended college and those who did not exhibit substantial increases in knowledge. Yet, the knowledge gap remains by Wave 2. Only for the group approaching retirement (ages 55-65) did educated individuals close the knowledge gap slightly more (although still not significantly).

[Insert Figure 2 Here]

Knowledge and growth patterns by financial literacy largely mirrored the educational patterns. Individuals with higher levels of financial literacy also tended to have greater Social Security knowledge (see Figure 3)[11]. Increases

[8] Due to sample size restrictions, we used these broader education categories, rather than finer distinctions.
[9] This represents a statistically significant improvement at the .05 level.
[10] With the exception of individuals approaching retirement (ages 55-65) in Wave 2, differences by educational attainment were significant in all age groups at the .05 level.
[11] With the exception of younger individuals (ages 25-34) in Wave 1, differences by financial literacy were significant in all age groups at the .05 level.

in knowledge did not vary substantially by an individual's level of financial literacy. In no age group did those with less financial literacy close the knowledge gap between waves. For the youngest group (ages 25-35), the difference in knowledge was not significant in Wave 1, but became significant by Wave 2.

[Insert Figure 3 Here]

One possible explanation for the relatively large growth in program knowledge among young adults is that they are learning some of the more widely understood aspects of Social Security (such as the availability of disability benefits or the funding of the program through a payroll tax). Individuals may learn less widely understood program aspects (such as spousal benefits) later. This learning may occur more slowly, if at all. The data provides inadequate evidence for this theory, however, as Table 4 suggests.

[Insert Table 4 Here]

The youngest group (ages 25-35) does show the smallest growth on the least understood concept (the calculation of benefits). On nearly every other program aspect, however, they exhibit a similar or larger increase in knowledge than did the older age groups.[12]

Discussion and Conclusions

For more than two decades, SSA has made concerted efforts to gauge the public's knowledge of its retirement and disability programs. The investment in a longitudinal study of program knowledge, as part of the UAS, represents the most recent development in this effort.

Our study makes a first attempt at using longitudinal, program knowledge data to build on current research. We measure Social Security program knowledge and knowledge growth by age, educational attainment, and level of financial literacy. We find that a substantial amount of learning about Social Security programs happens during the early career stage (ages 25-35). This findings echoes research by Smith and Couch (2014), who emphasize the importance of studying younger workers' Social Security knowledge.

Although young individuals of varying educational levels and financial literacy increase their Social Security knowledge, a significant gap in knowledge remains. These initial findings suggest that young workers who have not attended college or who have low levels of financial literacy represent a potential target for informational interventions. Informing these workers is particularly important if they will rely predominately on Social Security benefits for their retirement income in the future.

One concern is that testing may threaten validity. That is, knowledge may increase as a result of panel members completing the survey multiple times. However, because panel members do not receive the correct answers upon completing the survey and only take the survey every two years, the potential for any learning effect is minimal. Another limitation is that this study does not identify the factors that cause changes in knowledge. Thus, identifying which factors and processes drive knowledge gains represents an important avenue for future research.

The use of longitudinal program knowledge data will expand extensively on the UAS. For instance, Chard, Rogofsky, and Yoong (2017) developed a more sophisticated measure of Social Security program knowledge and retirement preparedness, which researchers may use in future studies to measure changes in program knowledge and retirement preparedness over time. In addition, SSA researchers are conducting randomized controlled trials (RCTs) to evaluate the effectiveness of alternative program communication in improving program knowledge, especially in areas where knowledge is consistently low, such as with the retirement earnings test and retirement claiming ages. The combination of RCTs with longitudinal survey data on program knowledge can help inform the agency on ways to help the public better understand its programs.

[12] In all cases, differences between age groups for individual survey items did not reach a level of statistical significance, however.

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Tables and Figures

Table 1. Weighted Characteristics by Survey Completion

	First Wave Only	Both Waves	Significance
Female	52.8%	49.8%	
Age			
25-35	29.3%	18.9%	*
36-54	43.4%	44.2%	
55-65	27.3%	36.9%	
Education			
Less than HS	10.4%	8.1%	
HS	34.5%	29.9%	
Some College	23.7%	24.2%	
Bachelor's or More	31.4%	37.8%	
Ethnicity/Race			
Non-Hispanic White	58.3%	64.5%	
Non-Hispanic Black	14.9%	15.9%	
Hispanic/Latino	21.6%	17.6%	
Non-Hispanic Other	5.2%	2.1%	
Married (UAS 1)	54.9%	63.1%	
Working (UAS 1)	82.9%	83.3%	
Mean Income	$48,719	$55,810	
N	205	724	
	22.1%	77.9%	

Source: Understanding America Study, Social Security Program Knowledge Survey
Note: * = significant at the .05 level; ** = .01 level; *** = .001 level

Table 2. Social Security Program Knowledge (Basic) items

Knowledge Concept	Question Wording	Type	Correct Answer
Benefit Calculation	Which of the following best describes how a worker's Social Security benefits are calculated?	MC[13]	(2) They are based on the average of the highest 35 years of your earnings.
Spousal Benefits	Someone who has never worked for pay may still be able to claim benefits if his or her spouse qualifies for Social Security.	T/F	True
Age Adjustment	The amount of Social Security retirement benefits is not affected by the age at which someone starts claiming	T/F	False
Inflation Adjustment	Social Security benefits are adjusted for inflation.	T/F	True
Claiming upon retirement	Social Security benefits have to be claimed as soon as someone retires	T/F	False
Payroll Tax	Social Security is paid for by a tax placed on both workers and employers	T/F	True
Disability Benefits	Workers who pay Social Security taxes are entitled to Social Security disability benefits if they become disabled and are no longer able to work	T/F	True
Child survivor benefits	If a worker who pays Social Security taxes dies, any of his/her children under age 18 may claim Social Security survivor benefits	T/F	True
Spousal benefits with children	If a worker who pays Social Security taxes dies, his/her spouse may claim Social Security survivor benefits only if they have children	T/F	False

Table 3. Social Security Program Knowledge by Survey Wave

	Correct in Wave 1	Correct in Wave 2	Among the correct in W1, Correct W2	Among the incorrect in W1, Incorrect W2
Disability benefits	88.1%	93.5%*	96.4%	27.7%

[13] Multiple choice answer options: (1) They are based on how long you work as well as your pay during the last five years that you are employed; (2) They are based on the average of the highest 35 years of your earnings; (3) They are based on how much Social Security taxes you paid; (4) They are based on your income tax bracket when you claim benefits.

Age adjustment	84.2%	91.7%*	94.9%	25.7%
Claiming upon retirement	82.0%	85.3%	90.3%	37.7%
Payroll tax	81.4%	85.7%	88.7%	25.1%
Child survivor benefits	80.9%	85.4%	91.3%	40.0%
Spousal benefits	78.7%	75.2%	83.5%	56.1%
Inflation adjustment	69.3%	65.2%	75.2%	51.9%
Spousal benefits with children	63.2%	66.3%	76.2%	51.0%
Benefit Calculation	20.6%	34.0%*	55.2%	71.6%

Source: Understanding America Study, Social Security Program Knowledge Survey (Wave 1 and 2)
Note: The * represents a significant difference (at .05 level) between waves.

Table 4. Social Security Program Knowledge by Survey Wave

		Percentage Point Change within Age Groups		
	Percent Correct in Study Population (25-65)	25-34	35-54	55-65
Disability benefits	88.1%	+10.8%	+3.9%	+4.6%
Age adjustment	84.2%	+6.1%	+8.5%	+6.8%
Claiming upon retirement	82.0%	+12.4%	+2.7%	-0.7%
Payroll tax	81.4%	+6.7%	+4.5%	+3.5%
Child survivor benefits	80.9%	+12.5%	+5.2%	-0.8%
Spousal benefits	78.7%	-2.4%	-3.4%	-5.2%
Inflation adjustment	69.3%	+4.7%	-1.9%	+3.9%
Spousal benefits with children	63.2%	+8.8%	+6.2%	-3.5%
Benefit Calculation	20.6%	+10.3%	+13.1%	+15.1%

Source: Understanding America Study, Social Security Program Knowledge Survey (Wave 1 and 2)
Note: The * represents a significant difference (at .05 level) between waves.

Figure 1. Change in Social Security Knowledge by Age

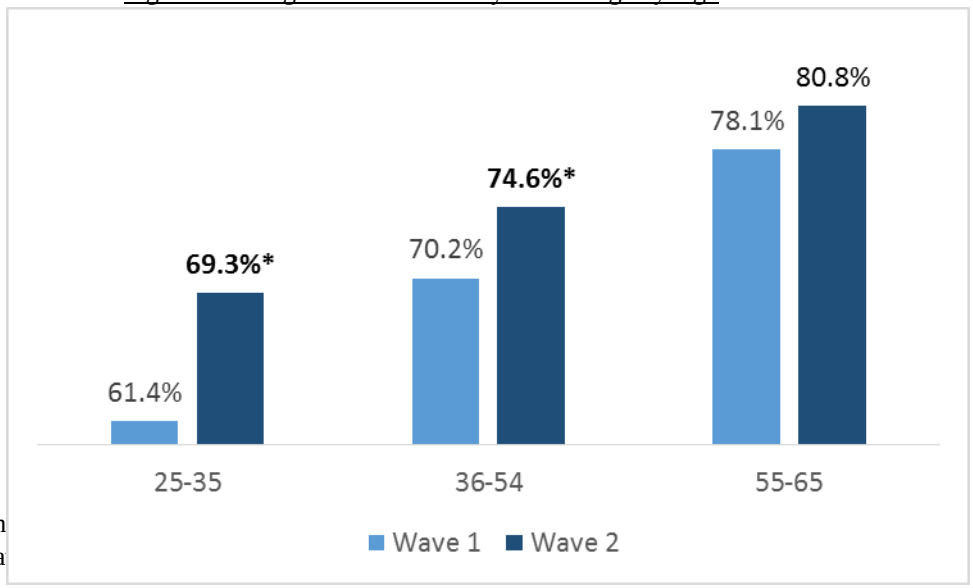

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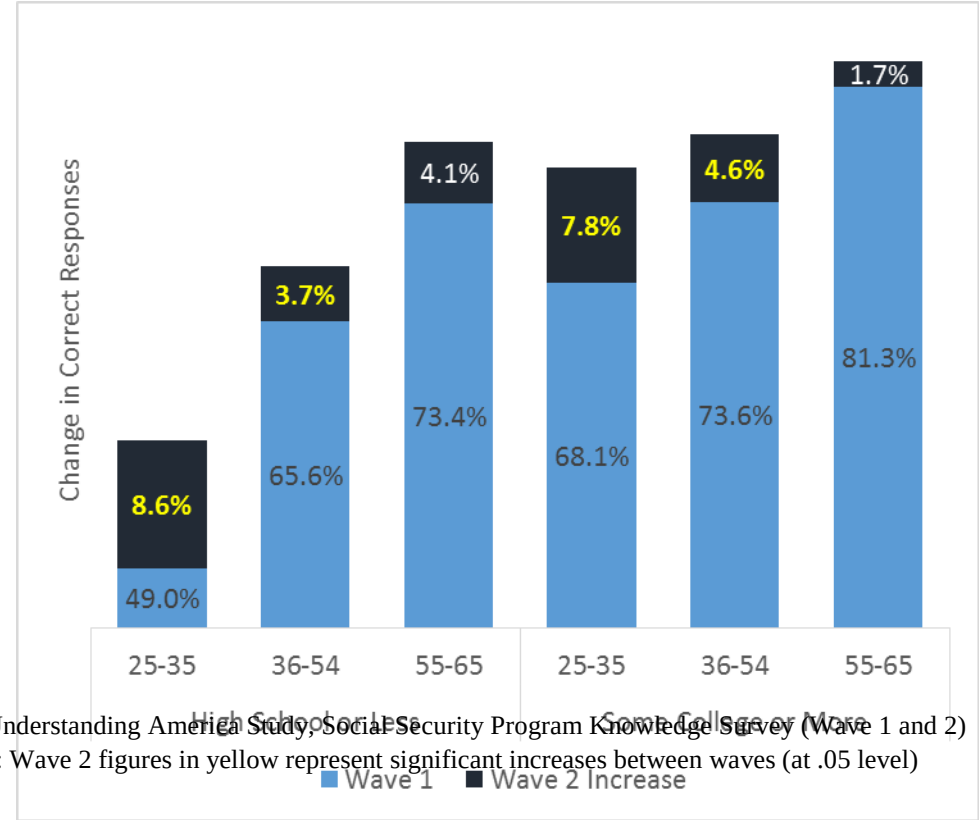
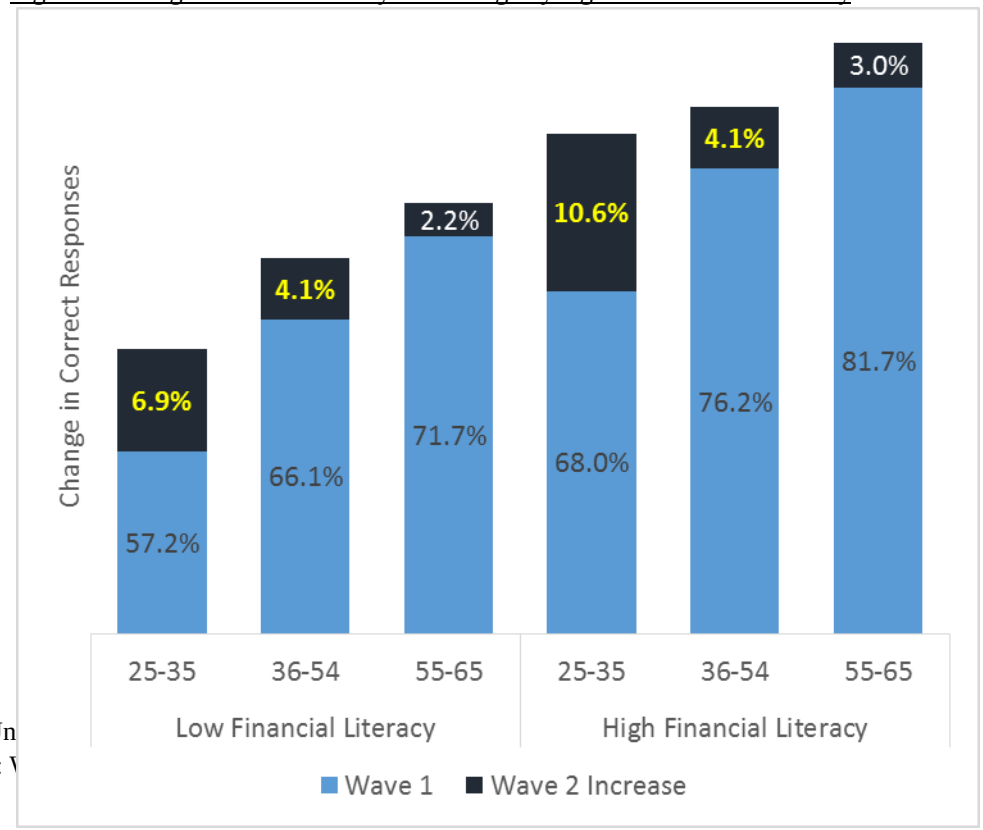
Figure 2. Change in Social Security Knowledge by Age and Education



Source: Understanding America Study, Social Security Program Knowledge Survey (Wave 1 and 2)
Note: Wave 2 figures in yellow represent significant increases between waves (at .05 level)

Figure 3. Change in Social Security Knowledge by Age and Financial Literacy



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