Financial Well-Being among Military Veterans in the United States

National Financial Well-Being Survey: Report 4

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1. Introduction

1.1 Background and objectives

The unique circumstances of military life can support financial stability for servicemembers, veterans and their families. It can also introduce unique challenges that threaten these families' financial well-being. The Bureau's Office of Servicemember Affairs works with current servicemembers, veterans, and their families to help support and empower them in making informed decisions that can improve their financial lives.

In 2017, the Bureau published *Financial Well-Being in America*, a report on the state of financial well-being among adults ages 18 and older in the United States.[1] That report described the associations between financial well-being, as measured by the Bureau's Financial Well-Being Scale, and a wide range of characteristics, opportunities, experiences, behaviors, skills, and attitudes. In this report, we provide a descriptive "snapshot" of the financial well-being of a sample of 759 veterans and retired servicemembers who responded to the Bureau's 2016 National Financial Well-Being Survey. We present information about the financial well-being of this group of veterans overall as well as information for subgroups along four dimensions: 1) individual and household characteristics; 2) savings and income; 3) financial experiences; and 4) financial behaviors, skills and knowledge. In addition, we explore whether a prior models of the pathways to financial well-being that was developed and tested for the overall U.S. adult population is supported when applied to a sample of veterans.

1.2 Literature review

Before we present the results of our analyses, we situate our work in the context of the existing literature regarding financial well-being and military service. This literature review was conducted to build a better understanding of the current knowledge and existing research on the financial well-being of servicemembers and to provide context for analyzing the data of the veterans in our sample. Below we summarize these findings from this literature.

This literature review synthesizes the finding of twenty-nine relevant, rigorous, peer-reviewed research studies drawn from a pool of sixty articles to better understand current knowledge and existing research on the topic of financial well-being for military families. Most of the articles we reviewed used some type of financial indicator as an outcome, a factor, or both. Of the 29 articles reviewed, 20 defined or talked about financial behavior, 16 defined or talked about financial knowledge or literacy, and 10 talked about or defined financial well-being. Occasionally, articles veered outside these three areas, and talked about financial resources or financial anxiety, but most articles defined or at least discussed one or more of these three key parameters. A list of the articles reviewed and descriptions of the data collection and analytic approaches used are provided in Appendix D.[2]

[1] The report is available at: https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/.

[2] To identify articles, we created a list of key organizations and individuals with research on the military and/or financial well-being and searched their websites and Google Scholar for papers. We used relevant search terms on Google and Google Scholar to identify additional articles. We compiled basic information about each of these studies, including: overview, methodology, sample size, outcome measures, findings, and limitations.

1.2.1 Themes from the literature

This literature review uncovered evidence that the unique circumstances of military life can support financial stability for servicemembers, veterans and their families. The review also revealed ways in which military life creates unique challenges that threaten the financial well-being of servicemembers and their families.

We identified five main themes in the literature about military families and financial well-being:

1) ***Relative financial situation of military families***. While, overall, the financial situation of military families seems to compare favorably to other groups, there is variation within military families in terms of how they fare financially. In addition, debt challenges seem to be an area where military families may face particular difficulties.
2) ***Influence of military life on financial well-being.*** Several factors unique to military life seem to help servicemembers and their families achieve financial stability, including pay and benefit structures, as well as financial oversight and advice. On the other hand, the multiple stressors of military life—including frequent relocation, deployment and physical and emotional injury—often have negative financial implications for military families.
3) ***Other factors that influence financial well-being of servicemembers***. Studies suggest that multiple factors affect the financial well-being of servicemembers. These factors range from cognitive abilities to personal traits to financial circumstances such as net worth and debt levels.
4) ***Financial well-being and military readiness***. Poor financial management has a negative impact on the readiness of the military. For example, servicemembers failing credit checks can prevent them from being deployed.
5) ***Military families' awareness of resources to support financial well-being.*** Although there are several resources to support the financial well-being of military families, lack of awareness or fears about the consequences of using such resources may prevent some households from seeking help.

These themes are discussed in greater detail below.

1.2.2 Relative financial situation of military families

Several studies compare the financial situation of military families to other groups, such as the general population or to comparable civilians. The studies generally find military families are better off, depending on the measure. Many studies also compare subpopulations of military families, for example career compared to non-career military.

Military servicemembers do better than the national average on measures of making ends meet, planning ahead, and financial knowledge (FINRA IEF 2012). Hosek and Wadsworth (2013) suggest there are many areas where households with servicemembers are better off in terms of salary and benefits than civilians, and that servicemembers typically earn more than civilians with a comparable education.

In an analysis of financial satisfaction of career military and non-career military veterans, Brunson et al. (1998) find that career and non-career military tend to have high levels of financial satisfaction (97 percent). However, in a multivariate regression predicting positive financial behaviors, Bell (2013) found that being a soldier was not a significant predictor of positive financial behaviors. Brunson et al. (1998) found that career military were better off on a number of measures compared to non-career military. Career military are more likely than non-career military to have saved income (42 percent versus 26 percent), to have mutual funds (60 percent compared to 53 percent), and to hold stocks (49 percent compared to 46 percent). Studies revealed differences by branch as well. FINRA IEF (2012) found that members of the Army specifically, as well as those with lower pay grades, have more difficulty than other subpopulations on making ends meet, and that activated reserve and guard personnel were more likely than non-activated personnel to have tried to plan for retirement, although the groups were equally likely to have a retirement account.

The literature also suggests that there are differences between servicemembers with different backgrounds and characteristics. For example, Lipari (2006) finds that younger military members (18 to 25 years old) have higher incomes than their civilian peers, although this correlation loses significance after age 25. Evidence also suggests that there are financial differences between military families with different family types. Varcoe et al. (2003) identified military members who are married with children as more likely to experience cash flow problems and young officers as more likely to have college loans in repayment they may be struggling to repay. Lipari (2006) found that age, dual income, race, and education were all predictors of higher income and higher levels of savings for military and civilian respondents. This study also found that number of children correlates with lower levels of savings for military personnel.

While the literature suggests that military families may have financial situations that are, overall, favorable compared to other groups, several of these studies did highlight struggles related to servicemembers and debt. FINRA IEF (2012) found military servicemembers do worse than the general population on a measure of using financial products, and that about one quarter of military servicemembers had medical debt, even though most had health insurance. Lipari (2006) found a slight, significant correlation between being in the military and having fewer savings and lower income, but also lower debt. Elbogen (2014) found military members are more likely to incur credit card debt. Civilians and military personnel had fairly different factors predicting debt. Lipari (2006) found that for civilians, lower age, and number of children, dual income, being white, and having higher education indicate higher levels of debt. However, for military households, only number of children and being a dual income household predicted debt levels.

1.2.3 Influence of military life on financial well-being

Military life has many unique aspects, from the pension and health care system provided to servicemembers and veterans to the unique experiences of combat and deployment. Some studies looked at specific aspects of military life and their relationship to financial well-being.

Pay and benefits structures

Military families receive stable payments through an established pay structure and system and have access to a range of benefits, which can support financial well-being. Bell et al. (2009) notes that given that military pay is through direct deposit almost everyone in the military has a checking and/or savings account of some type. Brunson et al. (1998) identified the receipt of a military pension as a key benefit supporting the financial well-being of career service military. In addition to financial benefits, military families have access to protections, discounts and products that civilians do not. Many companies and stores provide discounts for veterans (Elbogen 2014). Military health care, subsidized childcare, moving and housing allowances are also benefits supporting the finances of military households (Hosek and Wadsworth 2013). The Caregivers and Veterans Omnibus Health Services Act of 2010 gives financial stipends for those caring for severely injured veterans (Van Houtven et al., 2012). Some protections and products support the use of responsible financial products. The Servicemembers Civil Relief Act protects servicemembers from unfair evictions, reduces interest rates on pre-service debt, and provides a range of other legal protections and benefits. (Hosek and Wadsworth 2013). Walstad et al. (2017) notes that the U.S. Department of Veterans Affairs guarantees mortgages that meet their standards, helping veterans' access responsible homeownership.

Oversight and support of personal finances

The military also takes an interest in the financial situation of servicemembers and offers support and oversight of personal finances, which is unique among employers. Military servicemembers need to maintain a certain credit score to maintain their security clearance (Bell et al., 2009). Unit sergeants or officers may be contacted by individuals seeking to collect debts from servicemembers in their unit (Bell et al., 2009). In studying Navy servicemembers, Luther et al. (1998) found creditors routinely send letters of indebtedness to the servicemember's supervisor.

The military also supports financial well-being through financial education. The National Defense Authorization Act of 2016 included a financial literacy mandate (Walstad et al., 2017). As a result, military recruits are given a short financial management course. Studies find that military members who took a personal finance course were more likely to save money, especially when given documents to sign up for the military retirement savings plans (Bell et al., 2009; Brand et al., 2009; Skimmyhorn 2013). Skimmyhorn (2013) observed that, as recent enlistees, "[Personal Financial Management Course] students are generally in a mindset to receive and follow instructions" and that the timing of this course may also be influential because most enlistees are living on their own for the first time.

Frequent relocations

Military families relocate more frequently than the typical civilian household, driven by the servicemembers' assignments. Lipari (2006) found that relocation correlates with lower perceived financial well-being in the short-run and that longer periods of relocation are associated with higher levels of financial well-being when compared to shorter, more frequent moves. Wolpert et al. (2000) identifies extra financial burdens for families caused by relocation and separation. Spouses, especially female spouses, struggle to hold their own careers as they are often interrupted (Hosek and Wadsworth 2013). Lipari (2006) found that lower income in military households may be due to the frequent unemployment or underemployment of military spouses. Living on a base may not allow military personnel to gain financial independence and attract certain kinds of businesses. For example, Elbogen et al. (2013) found more payday lending locations are in military zip codes than anywhere else.

Deployment and combat service

Servicemembers and their families must cope with deployment and combat experiences. To prepare, Werber at al. (2008) found that families consider financial readiness, readiness for household responsibility, and mental preparedness to be the three main factors, followed by legal readiness. Almost half (45 percent) of respondents in the study listed financial readiness as key before deployment (Werber et al., 2008). The use of reserve forces has changed from almost never being called up to being called up for multiple one-year periods. Technically employers must give reservists their jobs back after they return from military service, but reservists may face layoffs and demotions. Griffith (2015) found that deployment and post-deployment experiences are associated with increased financial difficulties for reserve families and that only 36% returned to their previous job after serving on active duty. Bell (2013) found that soldiers often had financial anxiety before deployment, but less financial anxiety after deployment. A U.S. Government Accountability Office study from 2005 shows financial behavior of deployed military personnel and non-deployed military personnel are similar (Carlson et al., 2015).

Combat experience during deployment is also associated with financial well-being. Hosek and Wadsworth (2013) found that servicemembers work longer hours and are exposed to more intensive hazards than civilians. Bogan et al. (2013) found that combat experience has a negative correlation with stockholdings. Griffith (2015) identified that post-deployment financial difficulties correlated with difficulties during deployment including lacking social support, losing significant others, anger and frustration, suicidal thought, and experiencing combat trauma. Seeing someone killed or wounded was associated with an increase in financial difficulties (Griffith 2015).

Returning from deployment also brings financial challenges. Griffith (2015) found that post-deployment financial difficulties correlated with post-deployment experiences including losing significant others, anger and frustration, suicidal thoughts and nightmares /trouble sleeping. In contrast, this study also found that returning to the pre-deployment job correlated with lower rates of financial difficulties when compared to not returning to the pre-deployment job. Elbogen et al. (2012) finds that several post-deployment adjustment problems, including homelessness, criminal arrests, alcohol abuse, violence, physical aggression, suicidal ideation, and self-harm behavior, are related to at least one financial problem.

War-related trauma and injuries

Post-war experiences may include living with mental and physical injuries and the associated care requirements and inability to work. Elbogen et al. (2012) found that veterans who experienced war-related trauma, including post-traumatic stress disorder, depression, and traumatic brain injury, often had lower financial well-being than other veterans, and were much less likely to have money to cover their expenses, less likely to be employed, and more likely to be receiving veteran disability benefits. This study found significant correlations between negative financial behavior and post-deployment adjustment problems. Hosek and Wadsworth (2013) also find that individuals with PTSD generally earned less after deployment, although those that got PTSD often reported earning less before deployment as well.

In some cases, war-related disability is not combat related. Bedard and Deschenes (2006) identified subsidized tobacco during WWI and the Korean War as having increased non-combat disabilities for veterans. For female veterans, disability may be associated with sexual assault (Frayne, Partker, and Christiansen 2006; London et al., 2011).

Disabled veterans face particular financial challenges. London et al. (2011) found that a household with a veteran is less likely to be living in poverty, but households with a disabled veteran are more likely to be living in poverty than households without a veteran and without a person with disabilities, even after controlling for other factors associated with poverty. Despite the resources the U.S. Department of Veterans' Affairs provides, Van Houtven et al. (2012) found that the majority of caregivers must deplete assets, go into debt, and/or leave the labor force to care for veterans. Elbogen (2014) found that veterans receiving disability benefits may believe they will lose benefits if they find a job, and that veterans may also be unaware of some of the programs available to them.

Transition to civilian life

The transition from military service to civilian life represents a vulnerable period for some servicemembers. Transitioning out of the military without having transferable skills can be difficult (Spiegel and Shutlz 2003). Military servicemembers are often isolated from the civilian community. Role confusion after leaving the military is likely (McNeil et al., 1983; Speigel and Shutlz 2003).

However, financial challenges may be temporary for many servicemembers. Loughran (2014) found that after a year, veterans no longer had a higher rate of unemployment than civilians. He found that the transition time period for veterans means the ending of one job without necessarily having a job to move on to at a much higher rate than the general population, which leads to high rates of unemployment (Loughran 2014).

Military servicemembers can retire much younger than civilians, which puts them in a unique position. Civilian retirement often means an end of productive life, whereas military retirement tends to occur much younger and is often correlated with starting a new career (Fuller and Refering 1976). Brunson (1998) found that, on average, career military tend to have higher salaries after retirement.

Studies show that planning for retirement and transition to civilian life predict better outcomes. Fuller and Redfering (1976) found that better retirement planning correlated with better retirement adjustment for military service personnel. Spiegel and Shultz (2003) found that planning for military retirement and having skills easily transferable to civilian jobs both predict adjustment and military satisfaction for naval officers who stayed in the military until late in their career. Skimmyhorn (2013) also found that, for career military servicemembers, paying into a military savings account can be a primary outcome for success. In contrast, Elbogen et al. (2013) found that money mismanagement correlates with higher rates of homelessness for veterans.

1.2.4 Other factors that influence financial well-being of military families

Like civilians, the financial well-being of servicemembers may be related to life stage, opportunity, and similar factors rather than military service per se. One important factor, as described in the literature, is cognitive ability. Individuals with higher cognitive scores, older ages, or prior credit market activities were more likely to benefit from a financial management course offered through the military (including joining military retirement savings and /or lowering credit) (Skimmyhorn 2013). When studying how long-term servicemembers made decisions about retirement benefits, Simon et al. (2015) found that cognitively more able individuals were more likely to demonstrate patience that would ultimately lead to higher long-term income; whereas those less able to delay reward correlated with financial difficulties. Similarly, Argarwal and Bhashkar (2013) found that individuals with higher cognitive scores made more intelligent credit card decisions.

Studies also show that financial circumstance and resources can predict financial well-being. A study by Bell et al. (2014) found that subjective financial well-being was predicted positively by higher net worth, preparation for financial emergency, and higher perceived financial knowledge, but was predicted negatively by higher levels of automobile and/or credit card debt. Similarly, soldiers were more likely to have better financial behaviors if they did not have credit card debt and had greater amounts of emergency financial savings (Carlson et al., 2015). High levels of financial knowledge, higher self-mastery, and lower levels of financial anxiety also predicted better financial behaviors in the study. Another study found that soldiers with a better internal locus of control, lower levels of financial anxiety, and higher levels of past positive financial behaviors had more positive financial behaviors (Bell 2013).

1.2.5 Financial well-being and military readiness

Financial struggles of servicemembers impacts overall military performance. To try to understand the scope of their losses due to financial issues of its servicemembers, the U.S. Navy commissioned a study in 1998 (Luther et al., 1998) and found that they lost over $35 million in productivity and had to replace over 2,900 servicemembers because of poor financial management by employees. In an earlier study (1993 Family, Status, and Initial Service Study), leadership reported personal financial issues as the primary problem among military personnel preventing them from being ready to serve in the military. Among other challenges, soldiers may not be able to be deployed overseas if they do not pass their credit check (Luther et al., 1998). Losing recruits or short retention is often at least partially related to poor financial management and well-being, and it impacts what the military spends in recruiting to maintain forces (Plantier and Durband 2007).

1.2.6 Awareness of military-specific resources to support financial well-being

Walstad et al. (2017) found that many servicemembers are unaware of the benefits they can receive through the GI Bill. Plantier and Durband (2007) surveyed military spouses about their knowledge and assessment of military-provided financial resources. They found that spouses often do not use the financial resources the military provides, and find them to not be useful when they do. Instead, they often use non-military resources, such as family members, tax preparers, or non-military financial planners. In addition to a lack of awareness, some studies found fears prevented servicemembers from seeking financial help. Varcoe et al. (2003) found that young officers may be reluctant to admit struggles in paying off student loans and that the tough attitude of Marines may prevent Marines from seeking financial help.

1.3 Intended contributions of this study

This report contributes to the existing literature in two ways. First, it sheds new light on the financial situations of veterans by using a validated instrument specifically designed to measure financial well-being, namely the Bureau's Financial Well-Being Scale, to examine how veterans and subgroups of veterans are faring. Prior studies have not had the advantage of a validated or holistic financial well-being metric such as this and as a result have come to conflicting conclusions. Our review of the literature suggested the need for a validated measure of financial well-being to better measure financial well-being of servicemembers who have transitioned to veterans. Second, it provides evidence about the potential pathways to financial well-being for servicemembers by testing whether a model developed on the U.S. adult population as a whole is valid for our sample of veterans. As such, this work takes two critical next steps in understanding financial well-being among servicemembers, and it may ultimately help to identify and develop policies and programs that can help servicemembers and their families improve their financial lives.

2. Methodology

2.1 Financial well-being scale and score

> **Financial well-being**
>
> *A state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future and is able to make choices that allow them to enjoy life.*

Over the past several years, a key part of the Bureau's strategy for improving financial capability has revolved around a rigorous set of research activities designed to define and measure "success" for financial literacy initiatives.[3] This work has included the development of an evidence-based, consumer-driven definition of financial well-being and a scale—a set of questions along with a scoring procedure—to measure it.

A growing consensus in the field of consumer finance has recognized that financial education should go beyond simply helping individuals acquire financial facts and actually equip them to act on that knowledge, and that the ultimate goal for financial capability efforts should be improved *financial well-being*.[4] Because financial well-being had not been previously defined in this context, the Bureau set out to create a standard, comprehensive definition of financial well-being from the consumer perspective that would be relevant across a range of individual circumstances. More specifically, an individual's financial well-being is determined by the extent to which the individual feels that he or she: (1) has control over day-to-day and month-to-month finances; (2) has the capacity to absorb a financial shock; (3) is on track to meet his or her financial goals; and (4) has the financial freedom to make the choices that allow him or her to enjoy life.[5]

An individual's responses to each of the 10 items in the scale are converted into a single score.[6]

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[3] Another key component of BCFP's strategy to improve financial literacy is by providing consumers with tools and resources to increase their financial capability.

[4] This measure is consistent with the guiding vision of the U.S. Department of the Treasury's Financial Literacy and Education Commission's (FLEC's) national strategy of achieving "sustained financial well-being for all individuals and families in the United States." This vision is also consistent with that of the Organisation for Economic Co-operation and Development's (OECD's) International Network on Financial Education (INFE), in which BCFP participates, which describes the ultimate goal of financial literacy as "individual financial well-being."

[5] For more on the development of the definition of financial well-being, see BCFP's (2015) report, *Financial Well-Being: The goal of financial education*, available at http://files.consumerfinance.gov/f/201501_cfpb_report_financial-well-being.pdf.

[6] As described in BCFP's (2017a) technical report on the Financial Well-Being Scales' development, the scale uses item response theory (IRT) methods to convert the ten responses into a single score. While there are a number of ways to create a composite score from the individual item responses in a scale, we rely on IRT because it takes into account that each of the scale's items may have a unique relationship with financial well-being. Specifically, IRT allows for each item's *relatedness* to financial well-being and *degree of severity* to be accounted for when scoring. Degree of severity refers to how "much" of the attribute being measured (financial well-being) is needed for a respondent to choose a certain item response. IRT also allows scoring to reflect respondent characteristics or the mode of survey administration (e.g., self-administration versus interview-style administration). During our research and testing, BCFP determined that consumers answered its Financial Well-Being Scale questions slightly differently depending on their age group (i.e., "younger adults" under age 62 responded differently than "older adults" ages 62 or older) or whether the scale was self-administered or interviewer-administered.

The Bureau's Financial Well-Being Scale allows financial educators and researchers to accurately and consistently quantify the extent to which U.S. adults' financial situations and the financial capability they have developed have provided them with financial security and freedom of choice. It provides a common metric that allows an apples-to-apples comparison of financial well-being across individuals. It can also be used to assess someone's current state of financial well-being, to track his or her progress over time, and to understand how various factors, including financial education approaches, affect financial well-being.

As mentioned earlier, the Bureau's Financial Well-Being Scale consists of 10 "items" or questions. The questions that make up the scale are presented in Exhibit 2.1, below.

Exhibit 2.1: Financial well-being scale

Questions	Response Options
How well does this statement describe you or your situation?	
1. I could handle a major unexpected expense. 2. I am securing my financial future. 3. Because of my money situation, I feel like I will never have the things I want in life.* 4. I can enjoy life because of the way I'm managing my money 5. I am just getting by financially.* 6. I am concerned that the money I have or will save won't last.*	• Describes me completely • Describes me very well • Describes me somewhat • Describes me very little • Does not describe me at all
How often does this statement apply to you?	
7. Giving a gift for a wedding, birthday or other occasion would put a strain on my finances for the month.* 8. I have money left over at the end of the month. 9. I am behind with my finances.* 10. My finances control my life.*	• Always • Often • Sometimes • Rarely • Never

Source: BCFP National Financial Well-Being Survey
* More affirmative responses indicate lower levels of financial well-being.

The answers to these questions are converted to a financial well-being score, using item-response theory. The score is a standardized number that aims to quantify that person's underlying level of financial well-being.[7] By design, the scale ranges from a possible low of zero to a possible high of 100. In practice, scores range from a low of 14 to a high of 95.

The IRT method adjusts for these differences, normalizing the scores so that they can be compared across groups. For further details, see https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-technical-report/.

7 The "natural" scale for scores derived from item response theory (IRT) such as this one is a standard normal distribution, a "bell-shaped" curve that has a mean of zero and a standard deviation of one. For ease of interpretation, the obtained scores are converted to the BCFP Financial Well-Being Scale metric, providing a score distribution that ranges from approximately 0 to 100 and is centered at 50. For more information on the composite score and instructions on using a custom Stata package for scoring individual responses, see BCFP's (2017a) report, *CFPB Financial Well-Being Scale: Scale Development Technical Report*, available at https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-technical-report/.

2.2 Data

In 2016, the Bureau fielded a national survey, known as the National Financial Well-Being Survey, designed to measure financial well-being and associated concepts among a large sample of adults in the United States. The survey sample was drawn from the GfK Knowledge Panel® (GfK panel), a recruited internet panel of U.S. households.[8] The survey included the Bureau's Financial Well-Being Scale and collected data on a variety of other measures of interest to the field of consumer finance, including demographic, financial, experiential, attitudinal, and behavioral characteristics.[9, 10] Using the survey data, the Bureau has measured the level and distribution of financial well-being in the U.S. adult population, the older adult subpopulation, and commissioned research to describe the relationship between financial well-being and other factors, including the pathways leading to it.[11]

While the survey was not designed to examine the servicemember or veteran populations in a representative manner, it does contains 759 individuals who identified themselves as being veterans or retired military servicemembers. This sample of veterans is examined in this report. Importantly, this sample is a "convenience sample" and may not be reflective of the veteran population as a whole.

The veterans who responded to the survey were overwhelmingly male (92 percent), White non-Hispanic (79 percent), and older (mean and median age at the time of survey were 65 and 69 years old, respectively). As a group, they were also fairly well-educated. Roughly three quarters (77 percent) had attained better than a high school education, with 40 percent having attained a Bachelor's or graduate degree. Most (61 percent) were retired and not otherwise employed, with one third (32 percent) being employed. The vast majority (87 percent) had annual household incomes at or above 200 percent of the Federal Poverty Level, and nearly three quarters (72 percent) reported annual household incomes of at least $50,000.

2.3 Analysis

Section 3 presents an overview of the financial well-being of the veterans who responded to the National Financial Well-Being Survey. In addition to presenting the financial well-being for the

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8 Further details on the survey methodology are presented in Appendix A of this report. For complete details, please refer to Appendix C in BCFP's (2017b) report, *Financial Well-Being in America* (https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/) or BCFP's (2017c) National Financial Well-Being Survey public use data file User's Guide (https://www.consumerfinance.gov/documents/5588/cfpb_nfwbs-puf-user-guide.pdf).

9 Some of the measures included were well-established in the field (e.g., questions from Lusardi and Mitchell's (2008) financial knowledge scale, Dew and Xiao's (2011) financial management behavior scale, and Lynch and colleagues (2009) propensity to plan scale) and others were new (e.g., the BCFP Financial Skill Scale, questions about responsibility for household finances, and questions about researching financial decisions).

10 BCFP has made the survey data available to the public to foster research that will ultimately promote understanding of factors that support financial well-being and help empower more families to lead better financial lives to serve their own goals. See https://www.consumerfinance.gov/data-research/financial-well-being-survey-data/.

11 See BCFP's (2017) report *Financial Well-Being in America* available at https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/; Abt Associates' (2018) report Understanding the pathways to financial well-being available at https://www.abtassociates.com/financialpathways.

veteran sample overall, we provide the average financial well-being scores for subgroups of veterans defined by factors related to (1) individual and household characteristics; (2) savings and income; (3) financial experiences; and (4) financial behaviors, skills, and attitudes. We describe and compare the levels of financial well-being for key subgroups of older adults along these four dimensions. Tabular summaries of the results and statistical tests are presented in Appendix B. In this appendix, you will find the average financial well-being score, standard deviation, and distribution (i.e., scores at the 10th, 25th, 50th, 75th, and 90th percentiles) for each subgroup described in the report.

As described in Appendix A, all comparisons described as "differences" in this report are statistically significant at the 95-percent confidence level.[12] That said, the findings presented are descriptive in nature and are based on simple comparisons of financial well-being for selected groups. When we compare the financial well-being of two subgroups, we are not attempting to establish the causes or drivers of financial well-being. In addition, when examining the relationship between financial well-being and a characteristic, we cannot tell if there are hidden factors driving that relationship. For example, we observe that experiencing a material hardship is associated with lower levels of financial well-being, and we also observe that low income levels are associated with lower levels of financial well-being. It may be that the relationship between material hardship and financial well-being is driven by income: People with lower incomes are more likely to experience material hardship than people with higher incomes and also have lower levels of financial well-being than people with higher incomes (see Appendix A for more details).

2.3.1 Pathways Analysis

Latent constructs ***(also known as "latent factors" or "latent variables") are hypothetical constructs that are not directly measured but that can be inferred from multiple variables that were directly measured.***

Section 4 provides an analysis of the potential pathways to financial well-being among veterans. Specifically, the analysis seeks to understand whether the pathways observed in a previous study (Abt Associates, 2018) among the U.S. adult population hold true for the veteran sample. As depicted in Exhibit 2.2, Abt Associates found that among U.S. adults, financial skill was positively related to financial behavior (a latent construct measured from indicators of management, planning, and saving habits); financial behavior, in turn, was positively related to objective financial situation (a latent construct measured from indicators of financial resources, material hardship, low credit standing, and difficulty making ends meet); and objective financial situation, in turn, was associated with financial well-being. (For additional details on the model, including the development of the latent constructs, see Abt Associates (2018).)

We wondered, *do the pathways to financial well-being observed in the U.S. adult population appear to fit the veteran sample?* To address the question, we used structural equation modeling with latent variables (SEM) to obtain estimates for the veterans sample and compared the model fit and path coefficients to those for the U.S. adult population.

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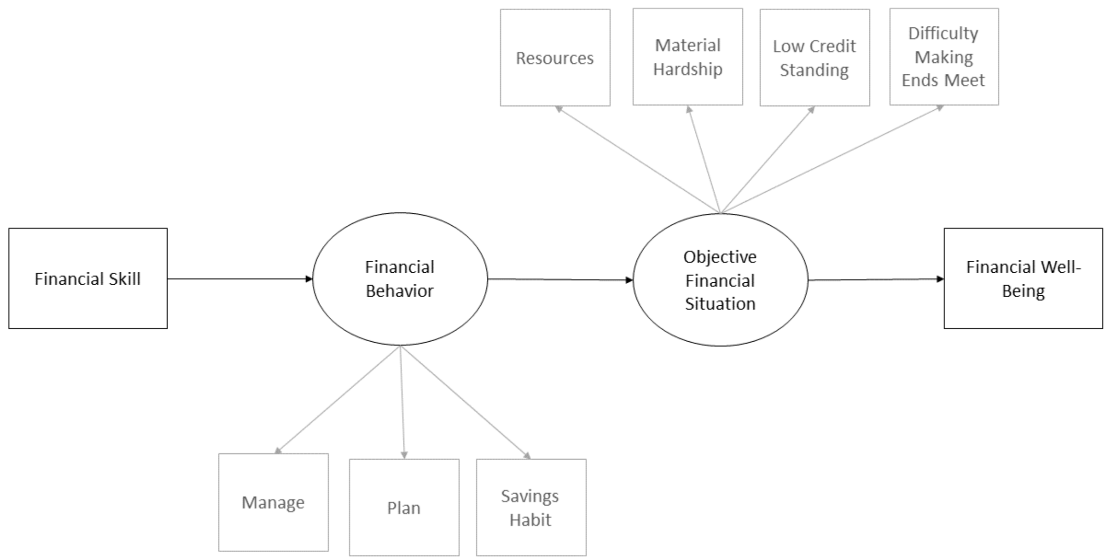
[12] In our analysis, we conducted two kinds of comparisons. First, we compared the financial well-being of subgroups to the national average, using t-tests to identify statistically significant differences at the p<.05 level (i.e., 95-percent confidence level. See Appendix A for more detail on how this statistical test was computed). These results are presented in the graphics in Section 3. Second, we compared subgroups to each other using analysis of variance (ANOVA) methods and post-hoc pairwise t-tests to understand whether average financial well-being differs significantly between subgroups. The results are presented in Appendix B and described in the narrative of each findings section. In our narrative, we only describe as different those subgroups where financial well-being scores differed significantly (at the p<.05 level).

Exhibit 2.2 Pathways to financial well-being observed among U.S. adult population



SOURCE: Abt Associates (2018) report, *Understanding the Pathways to Financial Well-Being*

SEM is specifically designed for describing pathways, processes, and other complex phenomena. It is a type of covariance structure modeling that combines factor analysis with linear regression and simultaneous equation modeling. As described by Abt Associates (2018), the factor analytic component allows the researcher to model latent variables[13] and the simultaneous equation modeling component allows the researcher to estimate more than one regression model at a time.

In the present study, we fit structural equation models in Mplus Version 8 (Muthén & Muthén, 1998-2017). Mplus is a specialized software for covariance structure analysis that provides a platform for estimating latent constructs and modeling simultaneous equations. We used Mplus's MLR estimator, which provides maximum likelihood parameter estimates and robust standard errors, and we used full information maximum likelihood (FIML) estimation to address missing data (Muthén & Muthén, 1998-2017).[14]

To gauge overall model fit for the veteran sample, we used the following indices and their respective fit thresholds (Hoyle, 1995; Kline, 2005): model chi-square, Stieger-Lind root mean square

We applied the following rules of thumb to judge the adequacy of model fit (Hoyle, 1995; Kline, 2005):

- Model chi-square with smaller values indicate better fit (though the value is heavily influenced by sample size);
- RMSEA of less than .10 (values of.05 or less preferred);
- CFI and TLI of .90 or greater (values of .95 or greater preferred);
- SRMR of less than .10 (values of .05 or less preferred).

13 A latent variable is a hypothetical constructs that is not directly measured but can be inferred from multiple variables that are directly measured and as such it captures the fundamental nature of a construct that is hard to fully capture in just one item (Abt Associates, 2018).

14 For additional details on the analytic method, refer to Abt Associates (2018).

error of approximation (RMSEA), Bentler comparative fit index (CFI), Tucker-Lewis index (TLI), and standardized root mean square residual (SRMR). To gauge the extent to which pathways to financial well-being among the veteran sample is consistent with those for the U.S. adult population, we compared the path coefficients (i.e., the values for the relationships among financial skill, financial behavior, objective financial situation, and financial well-being) for the veteran sample to those for the U.S. population in Abt Associates (2018).

Limitations

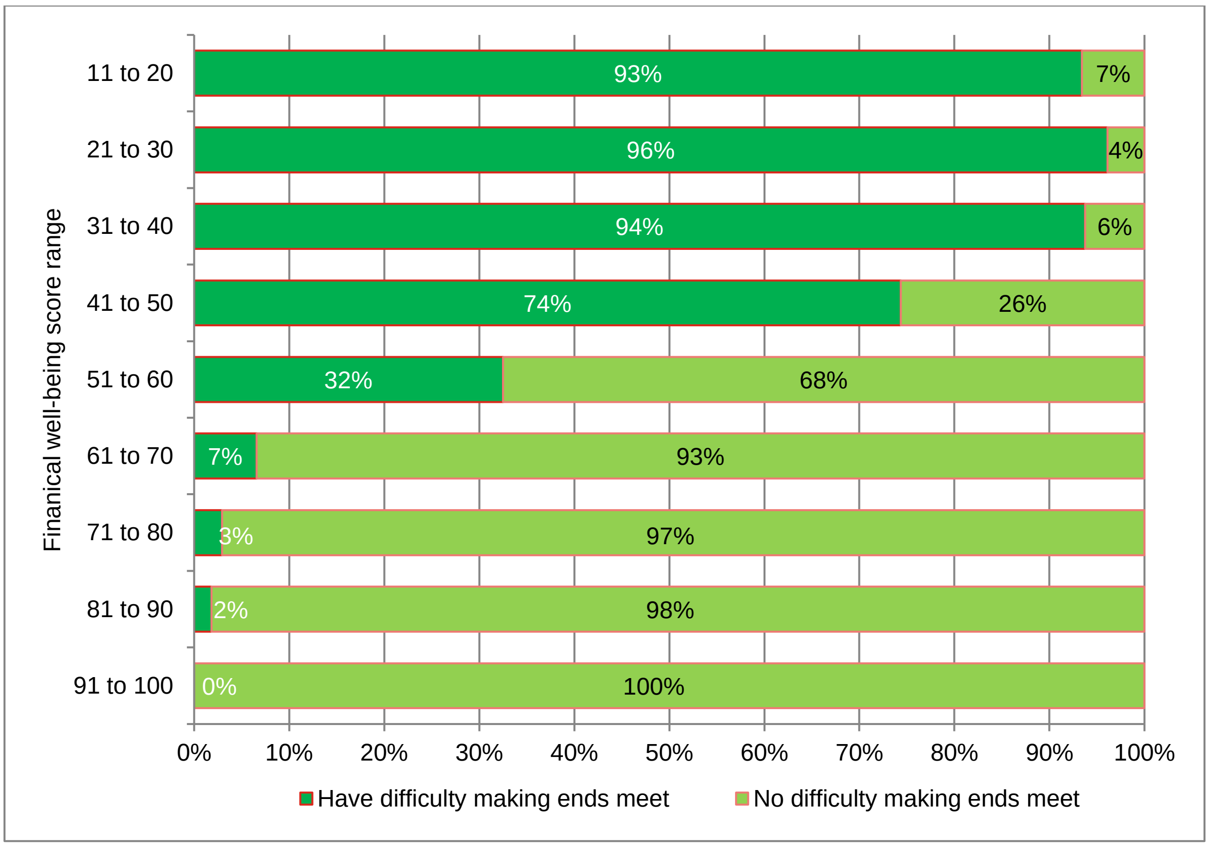
As noted in Abt Associates (2018), this analysis is exploratory and descriptive in nature. Because the data we use are cross-sectional and descriptive (as opposed to longitudinal, experimental, or quasi-experimental), this analysis does not provide insight into cause and effect. Thus, caution must be taken to avoid over-interpreting the results or reaching beyond the data when drawing conclusions. Nonetheless, this analysis constitutes an important first step in understanding the pathways to veteran's financial well-being, and the results shed light on potential levers for policy and practice.

3. Financial Well-Being of Veterans

3.1 Contextualizing financial well-being

Before presenting the distributions of financial well-being scores for veterans by various subgroups, it is useful to provide some additional information to contextualize the scores. In Exhibit 3.1, we show the proportions of adults in the U.S. who reported having difficulty making ends meet over the prior year by their financial well-being scores (broken into 10 point score ranges).[15] Note that this contextual information reflects ***all*** U.S. adults—not just veterans—and comes from the Bureau's (2017b) report, *Financial Well-Being in America* (https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/)

Exhibit 3.1. Difficulty making ends meet, by financial well-being score range for U.S. adults overall



SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

As shown, rates of difficulty making ends meet are high at the lower end of the financial well-being scale and decline as financial well-being scores increase. At a financial well-being score of 11 to 20 points, more than nine out of ten U.S. adults (93 percent) reported having difficulty making ends

15 Having difficulty making ends meet is defined as "very" or "somewhat" difficult to cover expenses and pay bills in a typical month. See Appendix C for more details.

meet. This proportion stays roughly the same for individuals in the next two score ranges: 96 percent of U.S. adults with financial well-being scores between 21 and 30 had difficulty making ends meet, as did 94 percent of those with score between 31 and 40. Rates of difficulty making ends meet fall sharply over the next three score ranges—by about 20 to 30 percentage points for each range. More specifically, for U.S. adults with financial well-being scores between 41 and 50, about three quarters (74 percent) have difficulty meeting ends meet. At scores of 51 to 60, about one in three U.S. adults (32 percent) have difficulty meeting ends meet. Among those with financial well-being score of 61 or higher, fewer than 10 percent reported difficulty making ends meet.

A similar pattern of associations was observed between financial well-being and material hardships such as housing insecurity, food insecurity, or medical insecurity (results not shown, for details refer to the Bureau's report (2017b) available at (https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/). Taken together, these patterns suggest that U.S. adults with financial well-being scores of 40 or lower are highly likely to be experiencing financial challenges. Those with scores in the 41 to 50 point range tend to be doing somewhat better but the majority still face financial challenges. U.S. adults with scores of 51 to 60 seem to have more stable finances though a sizeable number still struggle. At the upper end of the distribution, scores greater than 60 appear to be associated with largely secure financial circumstances, with no more than three percent of U.S. adults experiencing difficulty making ends meet or material hardship at scores greater than 70.

3.2 Overall financial well-being scores of veterans

In Exhibit 3.2, we present the distribution of financial well-being scores for our veteran sample. The average financial well-being score of veterans in our sample is 61, as is the median score. As shown, 25 percent of the veterans sample has a financial well-being score of 52 or below, with 25 percent having scores over 70.

Exhibit 3.2 Distribution of financial well-being scores among the veteran sample

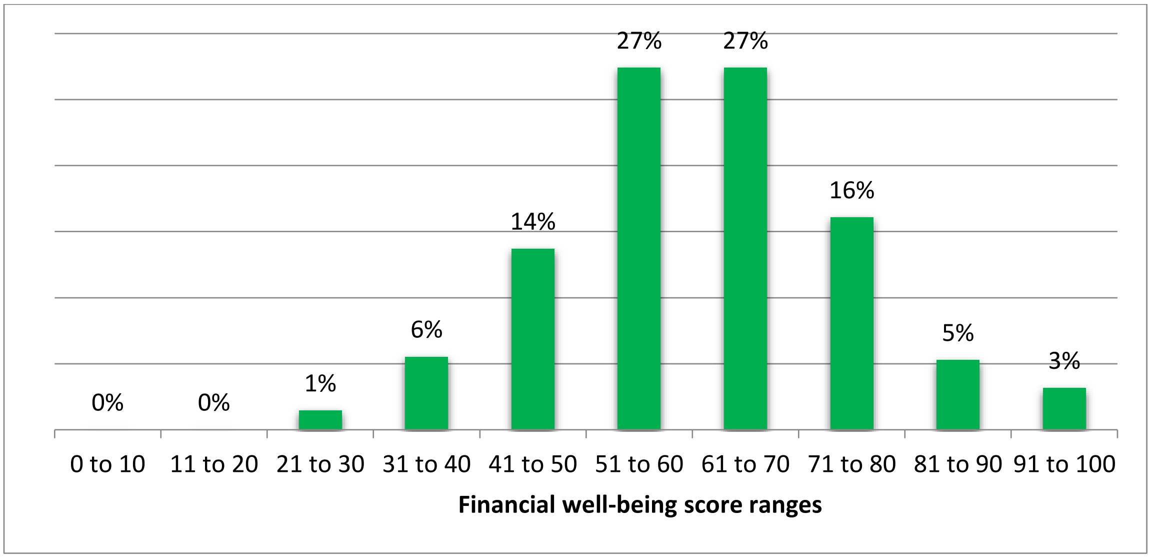
	Mean	10th Percentile	25th Percentile	50th Percentile (Median)	75th Percentile	90th Percentile
Veterans	61	43	52	61	70	79

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

Exhibit 3.3 shows the distribution of scores for our veteran sample in a different way. The exhibit shows a histogram, with the proportion of our sample that falls into each ten-point score band. The histogram shows the skewed pattern of the distribution. Forty-one percent fall into the middle two bands (i.e., between 41 and 60). While only seven percent have scores of 40 or below, 51 percent have scores over 60.[16] However, despite the skewed distribution, it is worth noting that there is a wide range of financial well-being scores, with representation in every score band from 21-30 all the way up to the 91-100 band.

[16] Due to rounding, percentages may not add up to 100 across the score bands.

Exhibit 3.3: Distribution of financial well-being in the veteran sample



SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

To learn more about these variations, we examine the average financial well-being scores for subgroups of veterans along four categories: 1) individual and household characteristics; 2) savings and income; 3) financial experiences; and 4) behaviors, skills and attitudes. We present the results of our analysis in Sections 3.3 – 3.6 of this report. Exhibit 3.4 lists the survey measures in each of these categories. (Refer to Appendix C for a mapping of each measure to the survey questions used to create it.)

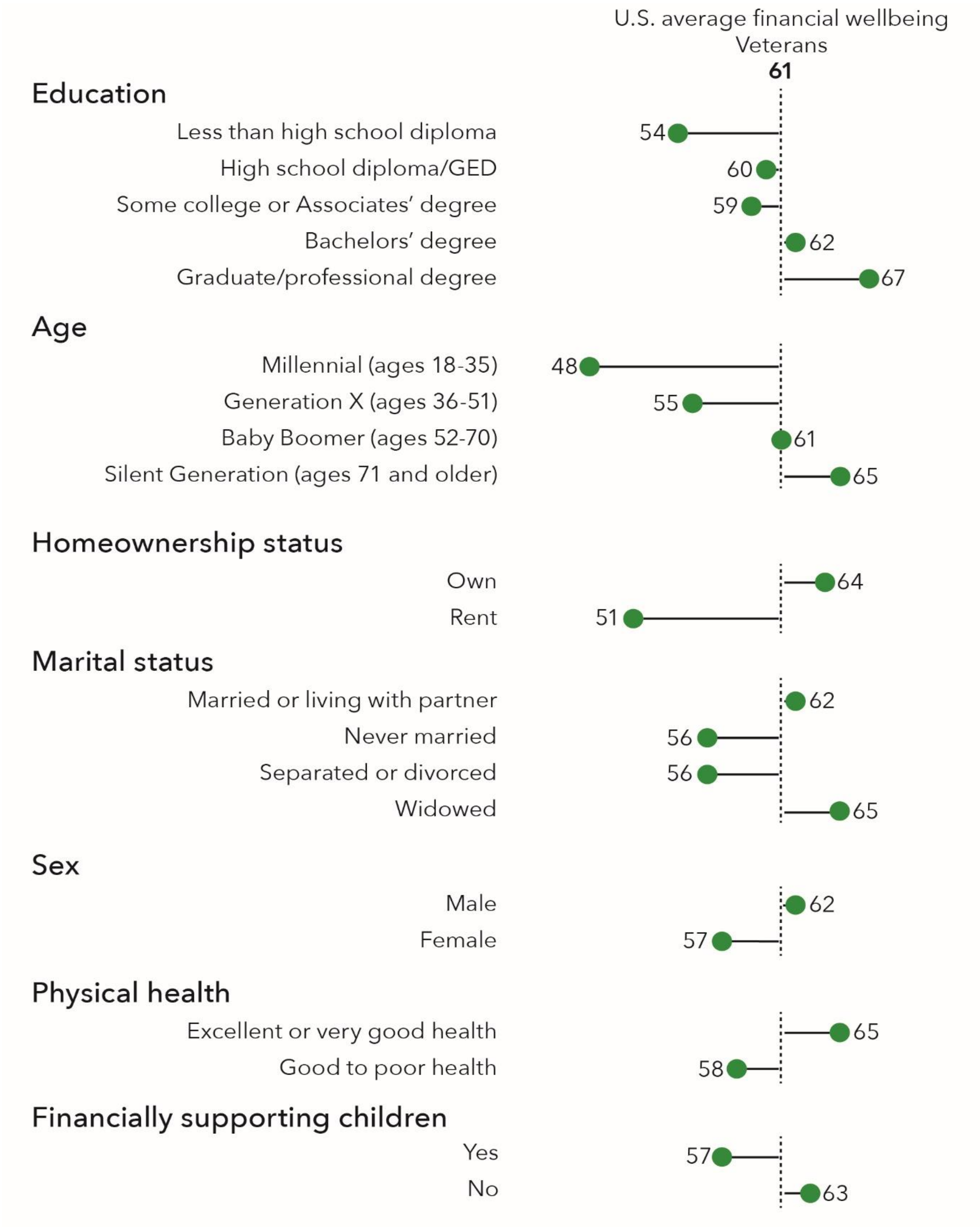
Exhibit 3.4: Survey measures that are examined in this report

Category	Measures
Individual and Household characteristics	Education; Generation; Home Ownership Status; Marital Status; Sex; Physical Health; and Financial Support of Children
Savings and Income	Liquid Savings; Ability to Absorb Financial Shock; Income; and Income Volatility
Financial Experiences	Debt Collection; Use of Non-Bank Credit and Products; Negative Financial Shocks; Credit Rejection; Use of Banking Services; Student Loan Debt; Responsibility for Own Finances; Difficulty Making Ends Meet; and Material Hardship
Behaviors, Skills, and Attitudes	Money Management; Financial Knowledge; Financial Skill; Financial Self-Efficacy; Savings Habits; Planning Horizon; and Propensity to Plan for Finances

3.3 Financial well-being by individual and household characteristics

This section describes and compares the financial well-being of veterans in our sample according to the following individual characteristics: education, generation, home ownership status, marital status, sex, physical health, and financial support of children. Overall, among these characteristics, the financial well-being of veterans seems to be most strongly associated with education and generation, followed by homeownership and marital status (see Appendix B). Exhibit 3.5 presents the average financial well-being scores by individual and household characteristics.

Exhibit 3.5: Average financial well-being scores by individual and household characteristics

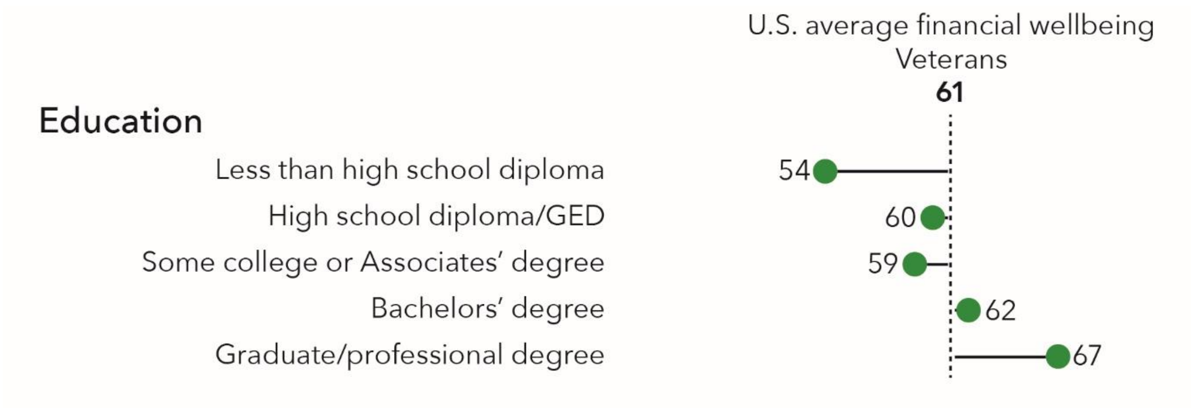


The distributions for these and other variables and the results of tests of whether subgroups means differ significantly from each other are presented in Appendix A.

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

3.3.1 Education

Veterans with higher levels of education tend to have higher average levels of financial well-being. Financial well-being scores are lowest among those with less than a high-school diploma (average of 54)—though notably only 2 percent of the veteran sample falls into this category. By contrast, those with a graduate or professional degree (about 20 percent of the sample) have the highest average financial well-being score of 67. The level of financial well-being is significantly higher among veterans with a graduate or professional degree than it is relative to all other educational categories. Given the importance of the educational benefits offered to servicemembers, it should be noted that the survey does not provide information on whether the education occurred prior to service or during or after service.



3.3.2 Generation

Older veterans tend to have higher financial well-being than younger veterans, with each successively younger generation having significantly lower financial well-being than the generation that precedes it. Veterans who are part of the Silent Generation (ages 71 and older at the time of the survey) and those who are Baby Boomers (ages 52-70 at the time of the survey) comprise most of our sample (81 percent) and have average financial well-being scores of 65 and 61, respectively. Veterans who are and part of Generation X (Ages 36-51) and Millennials (ages 18-35) have average scores of 55 and 48, respectively.[17]

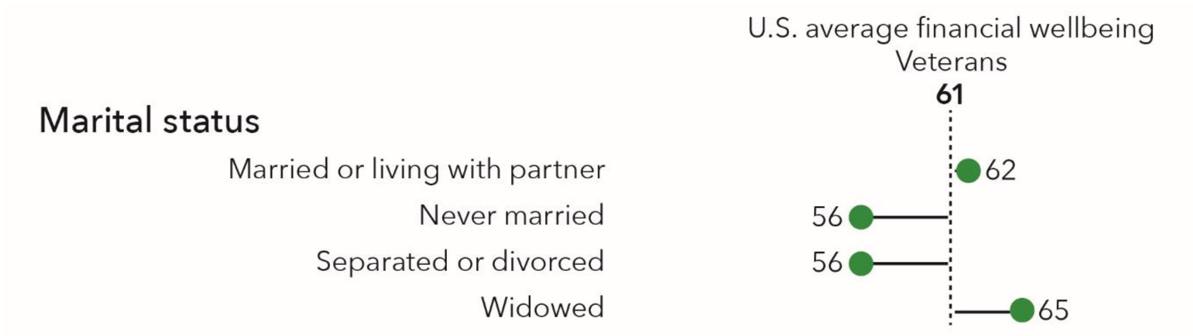
[17] Although not directly comparable, the pattern of results in this veterans sample is similar to the differences in financial well-being by generation observed for the total U.S. population (see BCFP, 2017b).

3.3.3 Homeownership

More than three quarters (81 percent) of the veterans in our sample are homeowners. Our analysis suggests that veterans who are homeowners tend to have higher financial well-being than those who rent or have some other living arrangement. On average, the financial well-being of veterans who own their home is 64, compared to 51 for those who do not.

3.3.4 Marital Status

Among the veteran sample, being married or being widowed is associated with higher financial well-being than being separated or divorced or never having been married. The majority of veterans in our sample are married or living with a partner (75 percent), and they have average financial well-being scores of 62 compared to an average score of 56 for those who have never been married or who are separated or divorced.



3.3.5 Sex

Our veterans sample is overwhelmingly (92 percent) male. For our sample female veterans' financial well-being is significantly lower than their male counterparts. While female veterans in our sample score an average of 57 on the financial well-being scale, male veterans have an average score of 62.[18] More research is needed on a representative sample of veterans to more accurately identify and better understand and gender-gaps in financial well-being.

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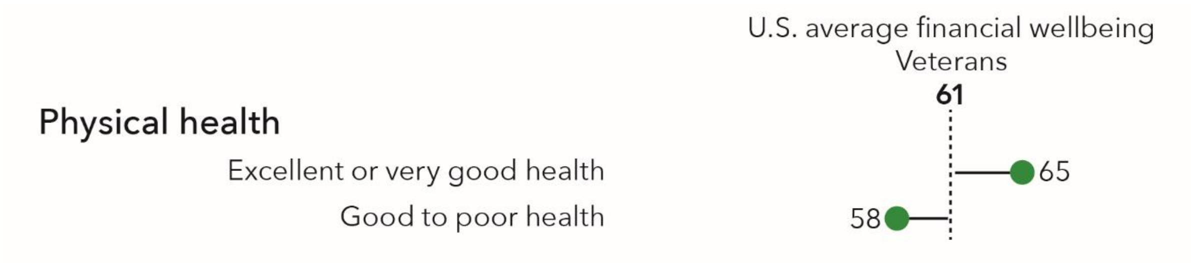
[18] Due to the small number of female respondents in the veteran sample, comparison to the pattern observed among the U.S. adult population is not possible.

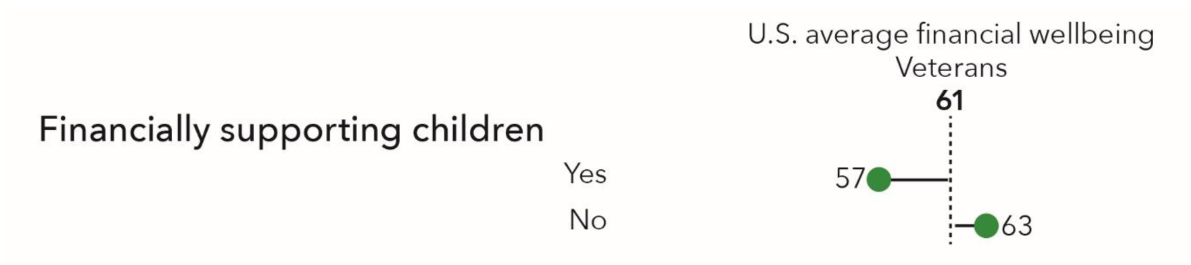
3.3.6 Physical health

Among veterans in our sample, physical health tends to be associated with greater financial well-being. Veterans with excellent or very good health (representing nearly half the sample: 49 percent) have an average financial well-being score of 65, with a 7 point advantage over the average score for their counterparts reporting good to poor health (with a score of 58).[19]



3.3.7 Financially responsible for children

The majority (75 percent) of veterans in our sample were not financially supporting children at the time of the survey, and these veterans tend to have higher financial well-being that those who provide financial support to children. On average, veterans supporting children score 57 on the Financial Well-Being Scale, while those not supporting children score 63.

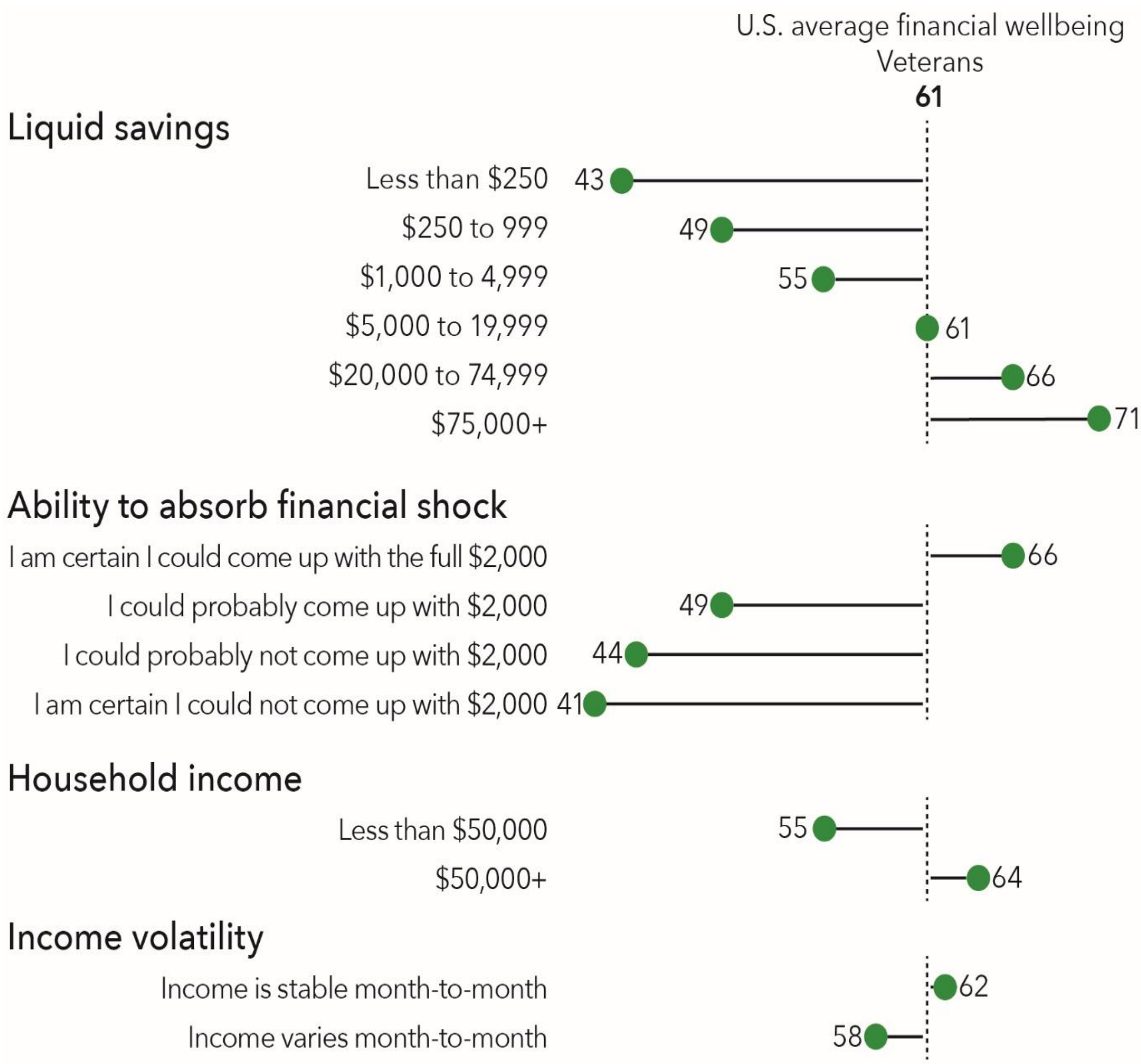


19 Although not directly comparable, the pattern of results in this veterans sample is similar to the differences in financial well-being by physical health observed for the total U.S. population (see BCFP, 2017b).

3.4 Financial well-being by savings and income characteristics

In this section, we describe the relationships between the financial well-being of veterans and measures related to savings and income, including the amount of liquid savings, ability to absorb financial shocks, household income, and income volatility. All of the factors we examined in this category had a positive association with financial well-being (see Appendix B). Exhibit 3.6 shows the average financial well-being scores by savings and income characteristics.

Exhibit 3.6: Average financial well-being scores by savings and income characteristics

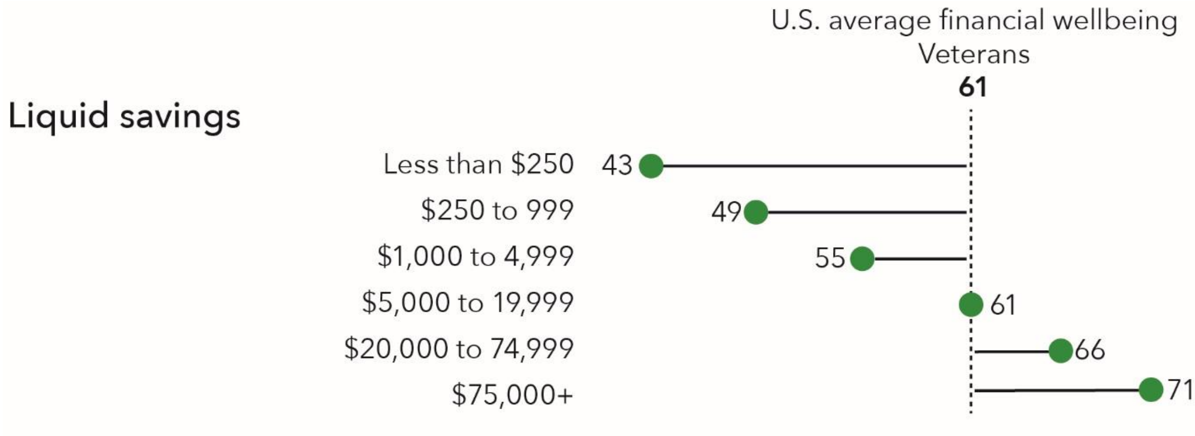


The distributions for these and other variables and the results of tests of whether subgroups means differ significantly from each other are presented in Appendix A.

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

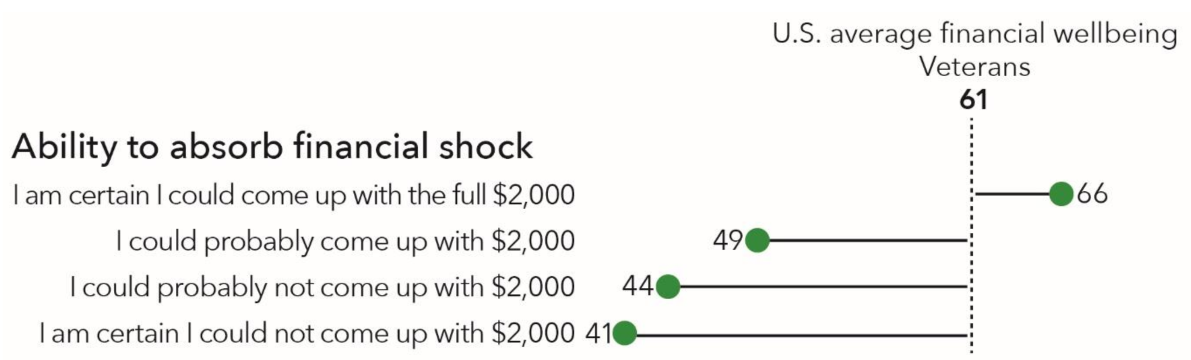
3.4.1 Liquid savings

Among veterans in our sample, one quarter (25 percent) had at least $75,000 in liquid savings and nearly half (46 percent) had at least $20,000 in liquid savings. Less than 20 percent had savings under $1,000. Thus, in general, the veterans who responded to our survey have relatively high levels of savings. Among them, financial well-being tends to increase as levels of liquid savings rises. In other words, veterans with higher levels of liquid savings have, on average, higher financial well-being. For example, those who have at least $75,000 in liquid savings have an average financial well-being score of 71, compared to an average score of 55 for those with $1,000 – $4,999 in savings, and an average score of 43 for those with less than $250 in liquid savings.



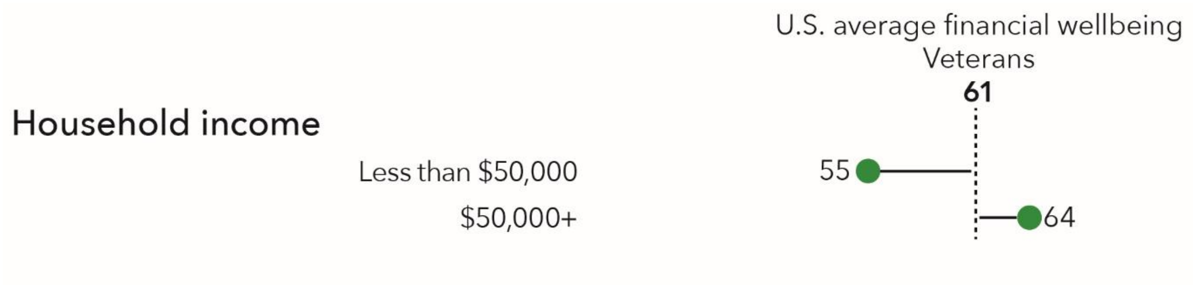
3.4.2 Ability to absorb financial shock

Another measure closely related to liquid savings—the capacity to absorb unexpected expenses—also appears to have a strong positive relationship with financial well-being. The average financial well-being for veterans who felt certain that they could not come up with $2,000 in 30 days if needed is 41 compared to 66 for those who expressed certainty in their ability to come up with $2,000. Over three quarters of veterans in the sample (79 percent) were certain they could come with the $2,000.



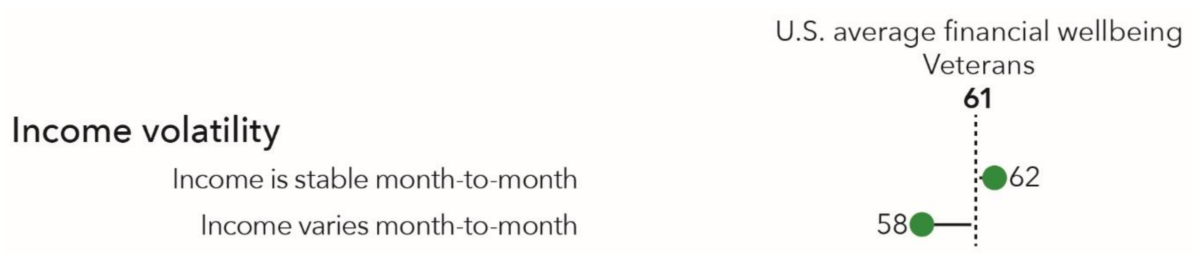
3.4.3 Household income

Among veterans in our sample, nearly half (49 percent) had an annual household income of at least $75,000 and nearly three quarters (72 percent) had income of at least $50,000. Only 11 percent reported incomes under $30,000. Thus, in general, the veterans who responded to our survey have relatively high incomes. Among them, financial well-being tends to increase with increasing income. Veterans with household incomes that are less than $50,000 have average financial well-being scores of 55, which is 9 points lower than for those with household incomes at or above $50,000 (average score of 64).



3.4.4 Income volatility

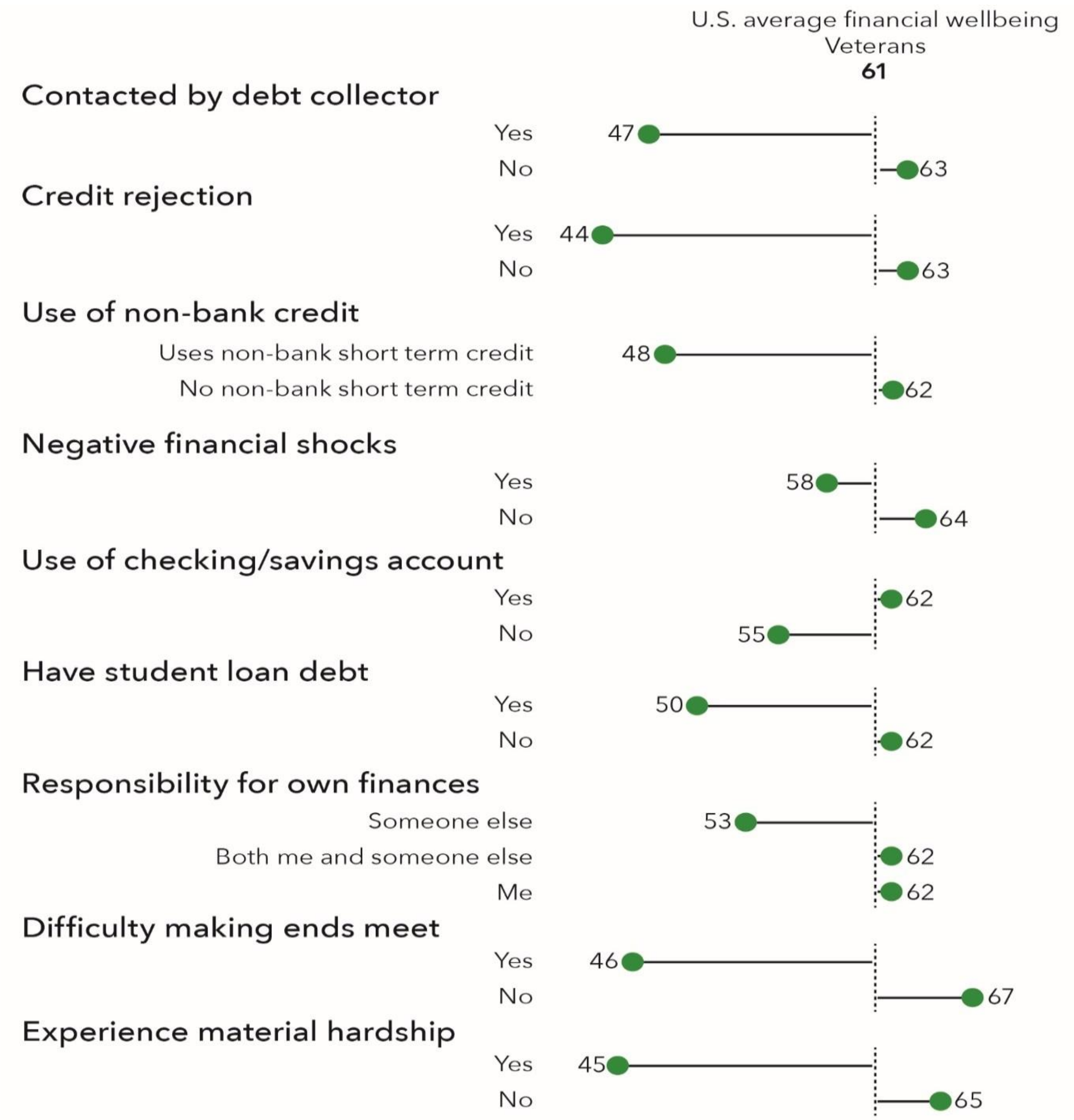
As would be expected, income stability and financial well-being are positively correlated. The majority (82 percent) of veterans in our sample have income that is roughly the same from month to month, and their average financial well-being score is 62. In contrast, the minority of veterans with an income that often varies from month to month tend to have lower financial well-being scores (average score of 58).



3.5 Financial well-being by financial experiences

In this section, we describe the relationship between the financial well-being and financial experiences among veterans. The financial experiences we examine include being contacted by a debt collector, use of non-bank credit and transaction products, negative financial shocks, credit rejection, use of banking services, student loan debts, responsibility for one's own finances, difficulty making ends meet, and material hardship (see Appendix B). Exhibit 3.7 presents the average financial well-being scores by various financial experiences.

Exhibit 3.7: Average financial well-being scores by financial experiences

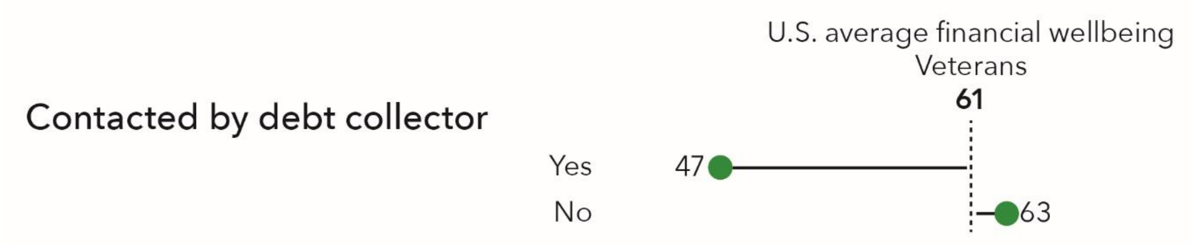


The distributions for these and other variables and the results of tests of whether subgroups means differ significantly from each other are presented in Appendix A.

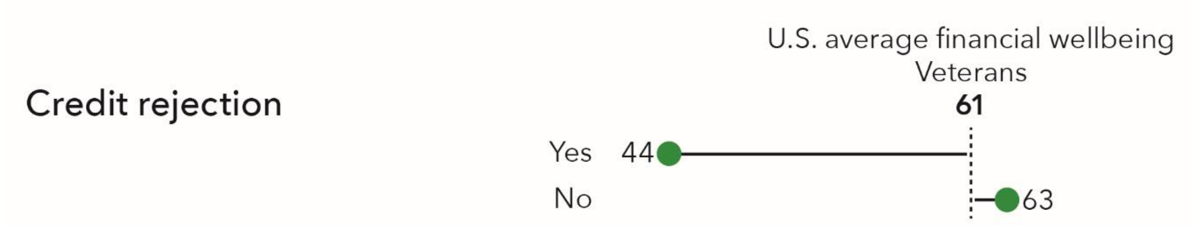
SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

3.5.1 Debt collection and credit rejection

Very few members of the veteran sample (10 percent) had been contacted by a debt collector in the past year. However, those who had tended to have lower financial well-being (average financial well-being score of 47) compared to those who had not been collected by a debt collector (average score of 63).

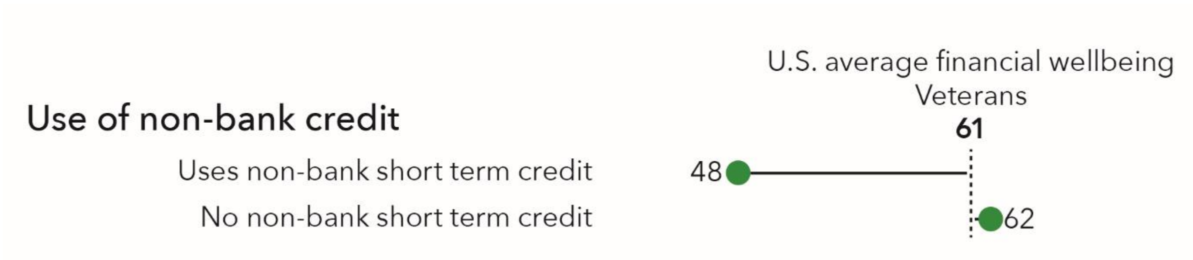


Credit rejection is similarly associated with lower financial well-being among our sample of veterans. Only 7 percent of veterans in our sample reported having been turned down for credit in the past year. But among this small subset of veterans, the average financial well-being score is 44, putting them at a 19-point disadvantage compared to veterans who did not experience credit rejection (average score of 63).



3.5.2 Use of non-bank credit

Among veterans in our sample, use of non-bank, short term credit products (e.g., payday, pawn, and auto title loans) is associated with a lower financial well-being. Although very few (3 percent) reported using these products, those who do have, on average, a financial well-being score that is 14 points lower than those who do not use such products.

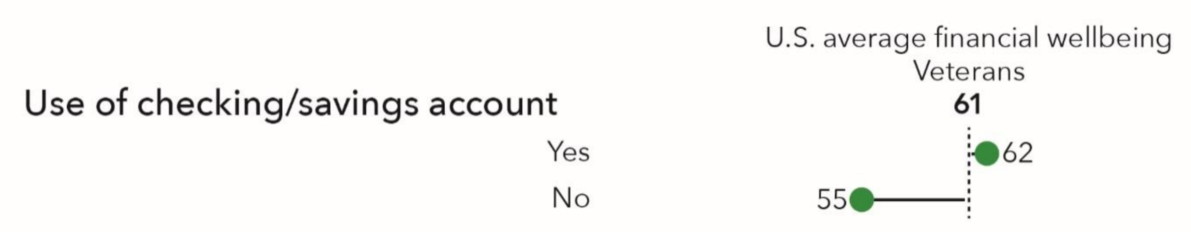


3.5.3 Negative financial shocks

Veterans who experienced one or more negative financial shocks tend to have lower financial well-being than those who have not experienced any negative shocks.[20] In our sample, just under half (43 percent) of veterans reported experiencing a negative financial shock in the past year. Among them, the average financial well-being score is 58—significantly lower compared than the average score of 64 for those who have not experienced a negative financial shock.

3.5.4 Banking services

The vast majority (91 percent) of veterans in our sample use traditional banking services, as measured by having a checking or savings account at a bank or credit union. They tend to have higher financial well-being that those who do not use these services. Among veterans, those with a checking or savings account have an average financial well-being score of 62, compared to a score of 55 for those who do not have a checking or a savings account.

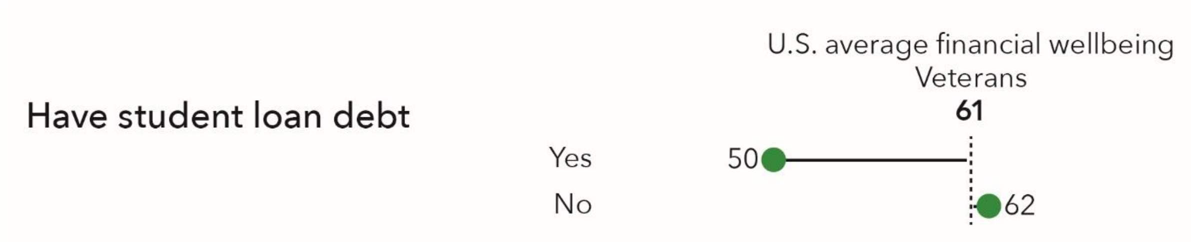


3.5.5 Student loan debt

Among veterans, having a student loan debt appears to be correlated with lower financial well-being. Although very few veterans who responded to our survey carry student loan debt for themselves or another person (only 7 percent), for this small subset financial well-being tends to be lower than for those who do not have student loan debt (average scores of 50 and 62, respectively).

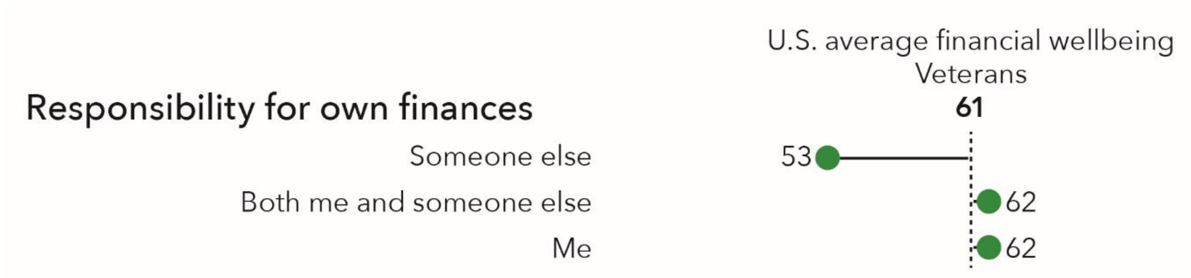
---

[20] Negative financial shocks include losing a job, having work hours or pay reduced, foreclosure, major car or home repair, health emergency, divorce or separation, new child, death of breadwinner, child start daycare or college, or provision of unexpected financial support to family or friend.



3.5.6 Responsibility for own finances

In the veteran sample, the vast majority (94 percent) have sole or joint responsibility for household finances. Findings suggest that, for veterans, involvement with one's own household finances is correlated with greater financial well-being. Veterans who reported that the responsibility for their finances rests with "me" or with "both me and someone else" have higher financial well-being than veterans who reported the responsibility for their finances rests entirely with someone else (average scores of 62 and 53, respectively).

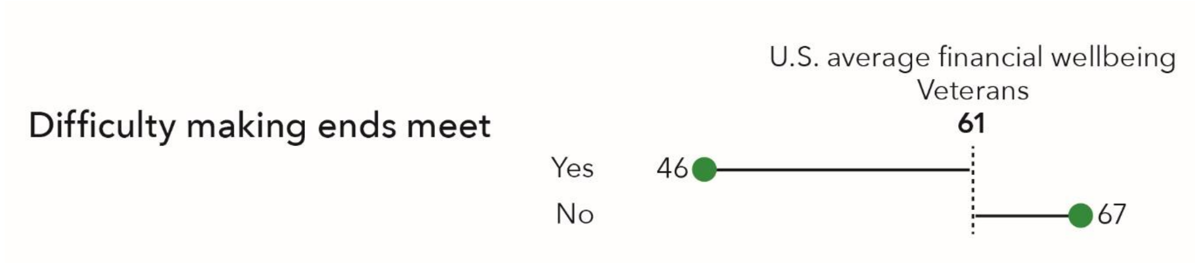


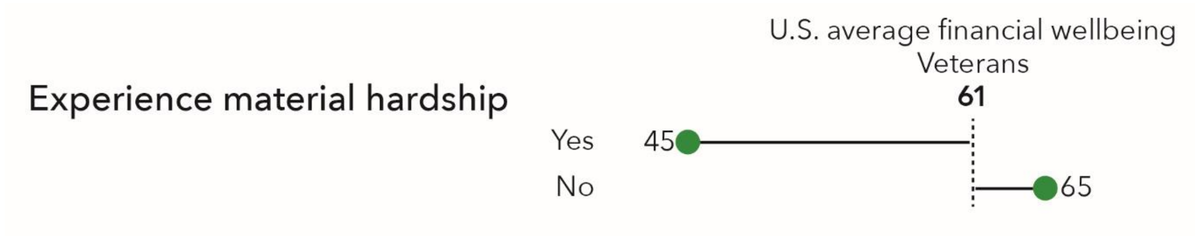
3.5.7 Difficulty making ends meet and material hardship

Among veterans who responded to the survey, negative financial circumstances—namely, having difficulty making ends meet (e.g., have difficulty paying bills and covering regular expenses) and experiencing material hardship (e.g., not being able to afford food, shelter, or medical care)—tend to be correlated with low financial well-being.[21] In general rates of these financial challenges are low in the veterans sample: one quarter (26 percent) experienced difficulty making ends meet and fewer than one in five (17 percent) experienced material hardship. Among the minority of veterans who reported they had difficulty making ends meet have an average financial well-being score 46, which is 21 points lower than the average for veterans who do not (average score of 67). Similarly, veterans who experienced one or more material hardships had an average score of 45, which is 20 points below the score of those who did not (average score of 65).

---

[21] Material hardships include experiencing one or more of the following forms of hardship "often" or "sometimes": running out of food (or worrying about running out of food), not being able to afford a place to live or medical treatment, or having utilities turned off. Having difficulty making ends meet is defined as "very" or "somewhat" difficult to cover expenses and pay bills in a typical month. See Appendix C for more details.

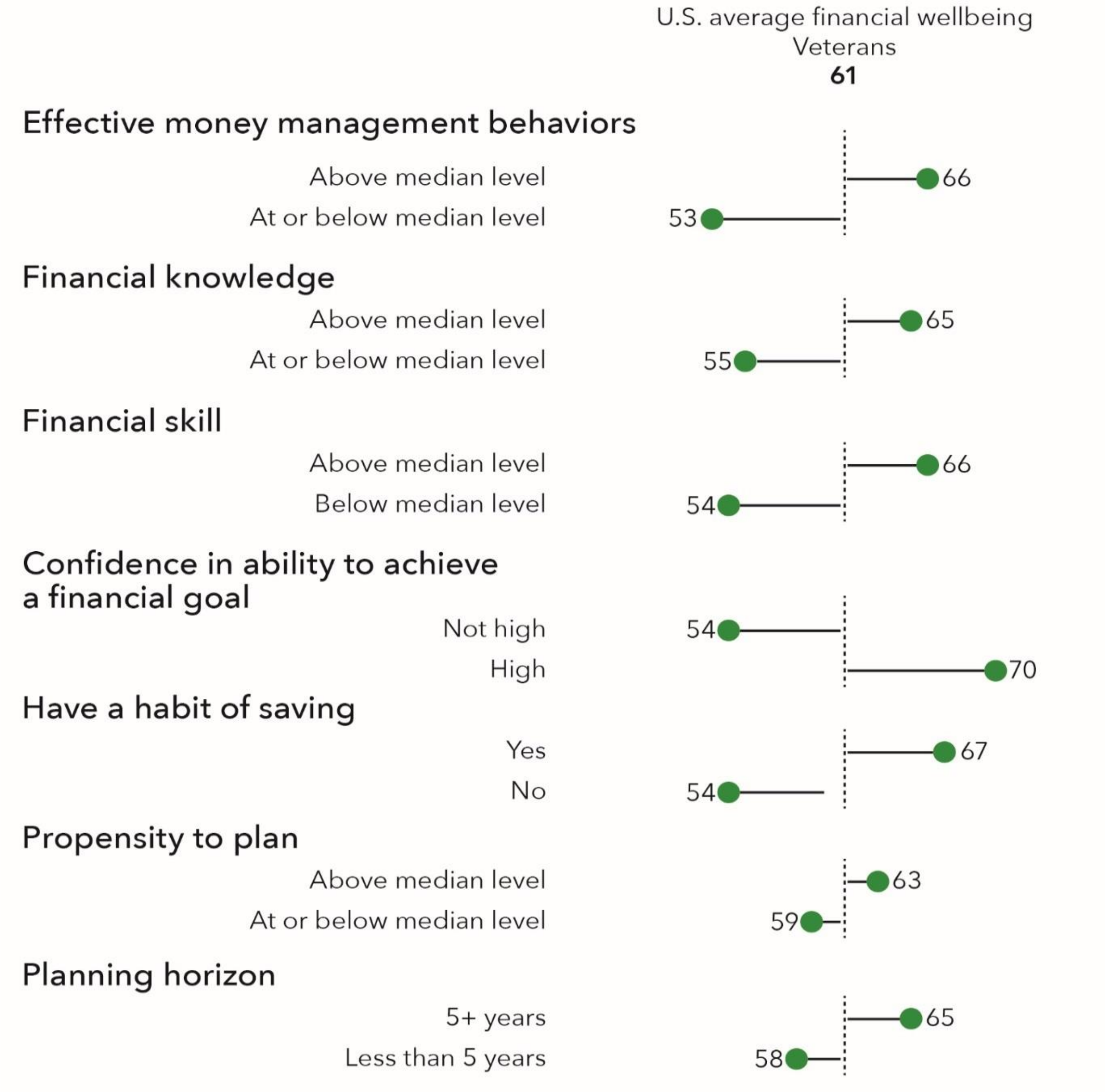

Difficulty making ends meet
U.S. average financial wellbeing
Veterans
61
Yes
46
No
67


Experience material hardship
U.S. average financial wellbeing
Veterans
61
Yes
45
No
65

3.6 Financial well-being by financial behaviors, skills and attitudes

In this section, we describe the associations between the financial well-being of veterans and routine money management behaviors, financial knowledge, financial skill, financial self-efficacy, savings habits, financial planning horizon, and propensity to plan for finances. All of these factors appear to have a strong and positive association with financial well-being (see Appendix B). Exhibit 3.8 shows the average financial well-being scores by financial behaviors, skills, and attitudes.

Exhibit 3.8: Average financial well-being scores by financial behaviors, skills, and attitudes

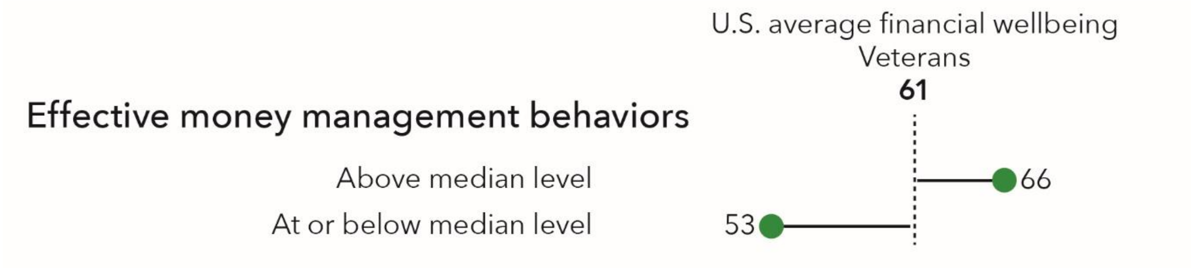


The distributions for these and other variables and the results of tests of whether subgroups means differ significantly from each other are presented in Appendix A.

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

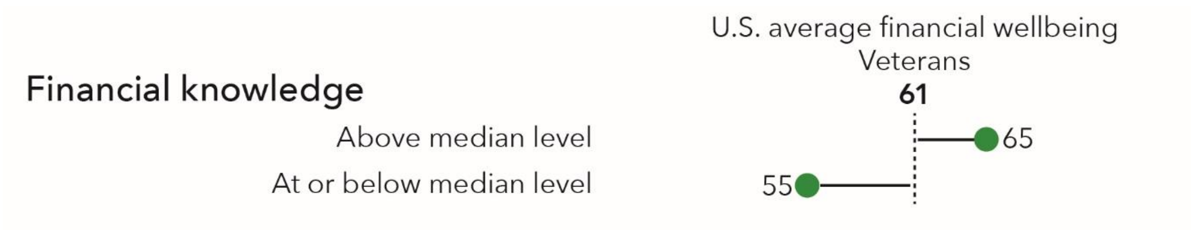
3.6.1 Money management

The majority of the veteran sample (64 percent) reported high levels of effective day-to-day money management behaviors—i.e., paying all their bills on time, staying within their budget or spending plan, paying off credit card balance in full each month and checking their statements, bills and receipts to make sure there were no errors.[22] Veterans with high levels of effective money management behaviors (greater than the median score of U.S. adults) tended to have higher financial well-being (average score of 66) than those who less frequently engaged in such money management behaviors (average score of 53).



3.6.2 Financial knowledge and skill

Financial knowledge and skill[23] are both positively associated with financial well-being. Among veterans in our sample, about two thirds demonstrated high levels of financial knowledge and 62 percent demonstrated high financial skill (greater than the median score of U.S. adults).[24] Veterans with high levels of financial knowledge have, on average, financial well-being scores of 65, compared to average scores of 55 for those with lower levels of financial knowledge.



Financial skill seems to have an even stronger association with financial well-being. On average, veterans with scores greater than 49 in the financial skill scale have a financial well-being score of 66, versus 54 for those with financial skill scores of up to 49.

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22 High levels of effective money management behavior was defined as greater than the median level observed in the overall U.S. adult population. See Appendix C for more details.

23 We measure financial skill using a 10-item financial skill scale developed by the BCFP. We measure financial knowledge using the 10-item version of the Knoll-Houts Financial Knowledge Scale (see The Financial Knowledge Scale: An Application of Item Response Theory to the Assessment of Financial Literacy, available at http://onlinelibrary.wiley.com/doi/10.1111/j.1745-6606.2012.01241.x/abstract).

24 High financial knowledge and high financial skill were defined as greater than the median level observed in the overall U.S. adult population. See Appendix C for more details.

3.6.3 Financial self-efficacy

Among the veterans who responded to the survey, financial self-efficacy (i.e., having confidence in one's own ability to achieve financial goals) tends to be positively associated with financial well-being. Veterans who have high financial self-efficacy (roughly half the sample, at 46 percent) have an average financial well-being score of 70, which is 16 points above the average score for those whose financial self-efficacy is not high (average score of 54).

3.6.4 Savings habits

Veterans with a habit of saving represent a small majority of the sample (58 percent) and tend to have higher financial well-being than those who do not habitually save. There is a 13-point difference between the average financial well-being scores for these two groups: Those who do not have a habit of putting money into savings have an average financial well-being score of 54, compared to an average score of 67 for those who have a habit of saving.

3.6.5 Planning horizon and propensity to plan for finances

Among the veteran sample, financial planning behaviors tend to be positively associated with financial well-being. Veterans who have a high propensity to plan (above the median score for the U.S. adult population) have an average well-being score of 63, which is a slightly higher than the average score of 59 for those with a low propensity to plan.[25] The veterans in this sample were evenly divided in terms of their propensity to plan (50 percent high, and 50 percent low).

Likewise, veterans with a financial planning horizon of 5 or more years have a higher average financial well-being score than those with a shorter financial planning horizon of less than 5 years (average scores of 65 and 58, respectively). Veterans in this sample were fairly evenly divided in terms of their planning horizon (47 percent planned 5 or more years ahead, and 53 percent planned fewer than 5 years ahead).

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25 Propensity to plan is measured as consulting one's budget, considering the steps needed to stick to one's budget, setting financial goals, and planning the steps needed to achieve one's financial goals. High propensity to plan was defined as greater than the median level observed in the overall U.S. adult population. See Appendix C for more details.

4. Pathways to Financial Well-Being among Veterans

Using the methods described in Section 2.3.1, we simultaneously estimated three structural models for the veteran sample. More specifically, we regressed: (1) financial well-being on objective financial situation; (2) objective financial situation on financial behavior; and (3) financial behavior on financial skill.

In each regression model, we included the following controls: financial self-efficacy, income, self-control, perceived economic mobility, retired, and frugality. These are the same controls used in the analysis of pathways among the U.S. adult population (Abt Associates, 2018). Findings are presented in Exhibit 4.1. The overall fit for the model was adequate: $\chi 2$ (df) = 405.521 (54); RMSEA = 0.093; CFI = 0.885, TLI = 0.821, SRMR = 0.046. The observed relation between financial well-being and objective financial situation was strong ($\beta = 0.583$, $p < .001$) as was the relation between objective financial situation and financial behavior ($\beta = 0.766$, $p < .001$) and the relation between financial behavior was, and financial skill ($\beta = 0.314$, $p < .001$). Coefficients for all variables modeled, including controls, are presented in Appendix B, Exhibit B.5. Overall, the model accounted for 66 percent of the variance in financial well-being, 76 percent of the variance in objective financial situation, and 62 percent of the variance in financial behavior. These results are consistent with a model for the veteran sample where the pathway to financial well-being may begin with good financial skills, which are related to more positive financial behaviors, which in turn, are associated with a better objective financial situation, which then is related to higher levels of financial well-being.

To check the sensitivity of results to alternative specifications, we ran the model using two alternate sets of control variables. The first sensitivity test expanded the controls to include the following demographic characteristics, as was done in Abt Associates, 2018: race/ethnicity, sex (female), age, marital status (married), education level (Bachelor's degree), employment, employer benefits, discount/time preference, financially supporting children, having a professional source of financial advice, and family financial socialization (in addition to financial self-efficacy, income, self-control, perceived economic mobility, retired, and frugality). These control variables were selected for use based on the strength of their associations with the core variables among the broader U.S. adult population. The second sensitivity test included a set of control variables selected specifically for the veterans analysis based on the strength of their associations with the core variables among the veterans in our sample. They were financial self-efficacy, life stress, housing satisfaction, retired, self-control, positive life outlook, experienced one or more negative financial shocks, having a professional source of financial advice, and having a financial planning horizon of at least five years. Under both of these sensitivity tests, we observed a similar model fit and pattern of relationships among the variables of interest was similar. (See Appendix B, Exhibits B.6 and B.7.)

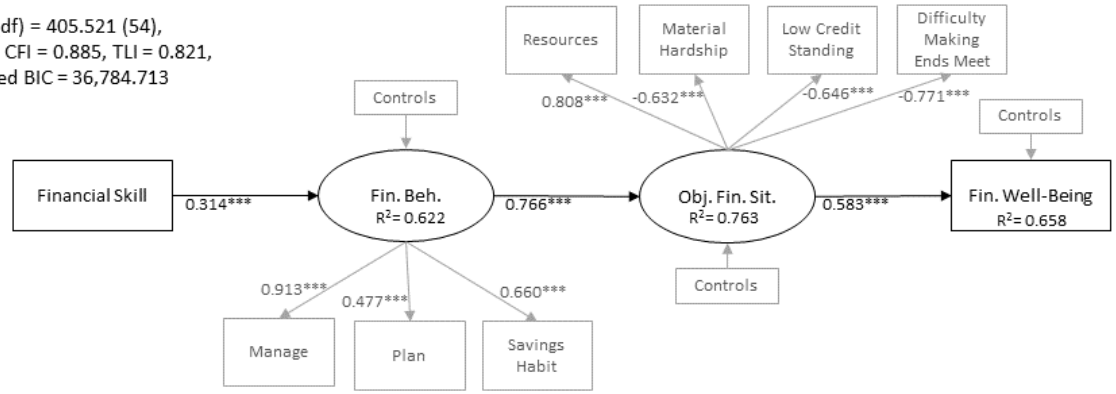
Comparing the results for the veteran sample to those for the U.S. adult population reported in Abt Associates (2018), we find that patterns of associations among financial skill, financial behavior, objective financial situation, and financial well-being for the veteran sample is generally consistent with U.S. adults. In both, we observe a strong association between financial skill and financial behavior. Similarly, both models suggest a strong association between financial behavior and objective financial situation, although the association appears to be stronger in the veteran sample. In both, we observe a strong association between financial well-being and objective financial situation, although, here, the association appears to be stronger in the broader U.S. adult population.

In summary, we tested whether the pathway to financial well-being observed in the U.S. adult population fits the veteran sample. Overall, the results suggest it does so reasonably well. More research is needed to understand whether the findings would hold for a more representative sample of veterans. Additional exploration of any veteran-specific pathways and reasons for the potential differences in the strengths of the associations between financial behavior and objective financial situation as well as objective financial situation and financial well-being are worthy targets for future studies.

Exhibit 4.1 Pathways to financial well-being for veteran sample, compared to the U.S. adult population

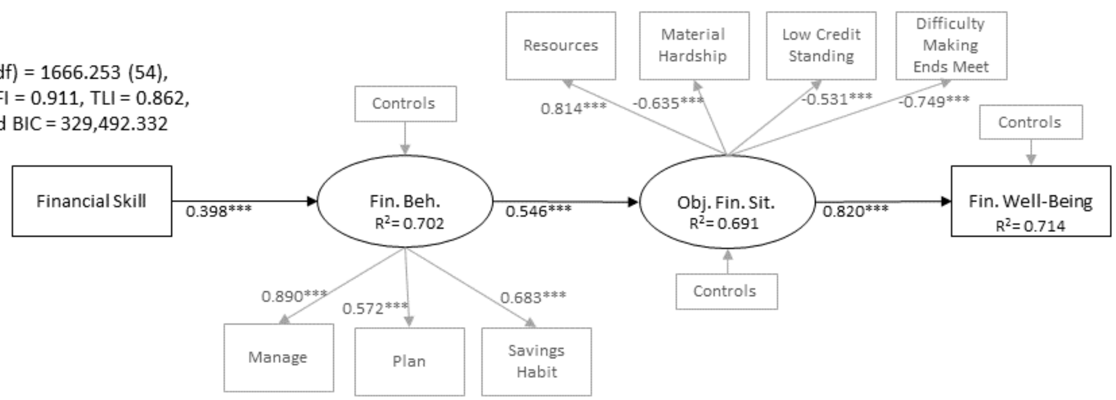
Veterans

Model Fit Statistics: Model N =759 , X^2 (df) = 405.521 (54), RMSEA (90% CI) = 0.093 (0.084 - 0.101), CFI = 0.885, TLI = 0.821, SRMR = 0.046, AIC = 36,666.730, adjusted BIC = 36,784.713



All U.S. Adults

Model Fit Statistics: Model N =6,394 , X^2 (df) = 1666.253 (54), RMSEA (90% CI) = 0.068 (0.066 - 0.071), CFI = 0.911, TLI = 0.862, SRMR = 0.045, AIC = 328,944.520, adjusted BIC = 329,492.332



SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.

5. Discussion, Implications, and Directions for Future Research

This report provides insights into the financial well-being among a sample of 759 veterans in the United States using BCFP's Financial Well-Being Scale. Among our key are the following:

- **In general, veterans have relatively high financial well-being.** On a scale of 0-100, the average financial well-being score for our sample of veterans is 61. Overall, the distribution of scores for our veteran sample skews to the higher ranges, where rates of material hardships and making ends meet are low. This general finding is consistent with our literature review, which has found that, overall, the financial situation of military families seems to compare favorably to other groups.
- **The financial well-being of veterans varies widely.** While the average financial well-being of our veteran sample is relatively high, there is a 35-point spread between the top 10 percent and the bottom 10 percent of scores, suggesting that there is wide variation in how veterans feel about their financial security and ability to make financial choices.
- **Savings and safety nets are strongly associated with financial well-being among veterans.** Of all the factors that we examined, disparities in the average financial well-being of veterans in our sample are greatest between subgroups that have different levels of liquid savings and capacities to absorb unexpected expenses. This is to not surprising given that feeling financially secure is one of basic tenets of financial well-being.
- **There are several attitudes, behaviors and skills that have strong and positive relations with veterans' financial well-being.** Financial skill, financial knowledge and engaging in effective day-to-day money management behaviors are all strongly associated with higher average financial well-being among our sample of veterans.
- **There are several financial experiences that are negatively associated with financial well-being among veterans.** Certain experiences—such as having student loan debt, being rejected for credit and using non-bank credit products have strong—and negative—relationships with financial well-being among our sample of veterans.
- **Many socioeconomic characteristics are associated with financial well-being among veterans**. Many socioeconomic characteristics appear to be related to financial well-being. Not surprisingly, high levels of educational attainment (i.e., receiving a graduate degree) is associated with higher financial well-being, as is being older, being male and being a homeowner.
- **We find empirical support for a pathway from financial skill to financial well-being.** Using structural equation modeling on our sample of veterans, we found that veterans' financial skill is related to their financial behavior. These financial behaviors are, in turn, related to their objective financial situations (as measured by traditional markers such as financial resources, credit standing, and cash flow sufficiency.) Finally, veterans' objective financial situation is associated with their financial well-being.

While the average financial well-being score for our sample of veterans appears to be higher than that for the U.S. population of adults as a whole, the observed patterns of associations between financial well-being and veterans' characteristics, life circumstances, and experiences are quite similar to what was observed for U.S. adults overall (BCFP, 2017).[26] These patterns are encouraging because, many of the factors with the strong associations are not fixed and have the potential to be influenced by programmatic or policy interventions. For example, we found evidence for pathways from higher levels of financial skills and certain money management behaviors to improved financial well-being for veterans.[27] More research is needed to understand whether positive financial skills and behaviors can actually improve financial well-being. If these factors are, indeed, drivers of financial well-being, it may be that financial education policies and/or programs that strategically target specific skills and/or behaviors during or after military service could improve the financial lives of veterans and their families.

Furthermore, as was true with the general U.S. adult population, there are several financial experiences (e.g., student debt, non-bank credit and credit rejection) that appear to be negatively associated with financial well-being in our veteran sample. While it is possible that these negative relations simply reflect general resource constraints, it is also possible that there are more direct and causal relationships between these experiences and lower financial well-being for veterans. More research is needed to understand the exact nature of these relationships and the policy and programmatic levers that can alleviate them.

While the findings presented in this report provide a high-level overview of some interesting patterns, they are based on a sample of veterans that, while moderately sized, may not be representative of the total population of veterans in the U.S. (i.e., this sample is overwhelmingly male, older, wealthier, more highly educated, and less racially and ethnically diverse than the U.S. adult population). In addition, the relationships we have observed between various characteristics and financial well-being are descriptive in nature and do not necessarily indicate a causal relationship. While these characteristics may influence veterans' financial well-being, it is also possible that the reverse is true, that is, that financial well-being influences these characteristics. It is also possible that there are other factors that are related to both financial well-being and these characteristics and that these other factors explain the relationships we are observing.

Overall, this report contributes to our understanding of veterans' financial lives. It provides a first-ever look at veteran's financial well-being as measured using a carefully designed well-validated scale specifically developed to provide comprehensive and person-centered insight into individuals' perceptions of their financial circumstances (namely the Bureau's Financial Well-Being Scale). The information we have presented about veteran's financial well-being and its association with their lived experiences in multiple domains (i.e., individual and household characteristics; savings and income; financial experiences; and behaviors, skills, and attitudes) is an important step forward for the field of consumer finance. But it is only a first step. We hope this work inspires additional research. Promising future directions for researchers, thought leaders, and funders alike to consider

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[26] The average financial well-being scores for U.S. adults overall is 54 (BCFP, 2017). However, it is important to note that the disparities in scores between our convenience sample of veterans and the overall U.S. adult population is not necessarily attributable to veteran status.

[27] This pathway goes from financial skill through financial behavior and objective financial situation to financial well-being.

include (1) multivariate analysis that controls for other observed factors that may influence the relationships examined in this report; (2) using a representative sampling veterans to provide insight into population-level trends among veterans and any differences that may exist among key demographic subgroups of veterans; (3) using rigorous statistical methods (e.g., propensity score matching) to develop a comparable group of civilians to which veterans can be compared then examining between-group similarities and differences in financial well-being and its correlates; (4) using longitudinal data to assess change over time in veterans financial well-being and provide more rigorous evidence of its potential drivers. In the meantime, we encourage policymakers and practitioners to note the potentially consequential role financial skill and financial behavior appear to play in the path to financial well-being of veterans in our sample—a finding also observed in the broader U.S. adult population. It may be that for veterans, as for all adults, financial education tools and programs that emphasize financial skill building and establishing positive financial behaviors would help promote financial well-being.

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Appendix A: Methodology

Data

The data for this study come from the Bureau's National Financial Well-Being Survey. This national survey of adults in the United States was fielded in late 2016 and was designed to measure financial well-being and such possible correlates as financial behaviors, skill and attitudes; individual characteristics; household and family characteristics; income and employment characteristics; savings and safety nets; and financial experiences (BCFP, 2017b; BCFP, 2017c).[28] Respondents to the survey were members either of the GfK Knowledge Panel® (GfK panel), a nationally representative probability-based recruited internet panel, or the GfK KnowledgePanel Latino℠.[29] The survey sampling strategy provided for representation across key population groups (age, race/ethnicity, and poverty level) in proportion to the general U.S. population and included an oversample of adults ages 62 or older. A total of 6,394 adult participants (from the general population and the oversample of older adults) completed the survey in English or Spanish, according to their language preference.[30, 31]

Among these survey respondents were 759 individuals who identified as veterans or retired servicemembers. They form the convenience veteran sample that is the focus of the present report. We describe their characteristics below and in Exhibit A.1 but first note the limitations of these data.

Limitations of the data

Importantly, because the sampling strategy for the National Financial Well-Being Survey was not designed to ensure representation of veterans in proportion to the U.S. veteran population, our sample is a non-representative convenience sample of veterans.[32] In contrast to the Bureau's reports about financial well-being in the U.S. adult and older adult populations,[33] the findings we present on veterans do not generalize to the U.S. veteran population. Moreover, the levels of financial well-being among veterans and subgroups of veterans presented in this report cannot be compared directly to the levels for the U.S. adults or older adults presented in other reports in the financial well-being report series. Nonetheless, the data from this moderately sized sample provide an important opportunity to describe financial well-being among veterans, explore the associations among veterans' financial well-being and such key life dimensions as individual and household

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28 The data used in this study are from a restricted-access file. A public-use data file and documentation is available at https://www.consumerfinance.gov/data-research/financial-well-being-survey-data/.

29 Including the GfK KnowledgePanel Latino℠ helped ensure adequate representation of the U.S. Hispanic population, including Spanish speakers.

30 The overall survey sample consisted of 5,395 from the general population sample and 999 from the oversample of older adults (ages 62 and older). The general population sample included 1,254 older adults. Thus, the total number of older adults included in the survey data is 2,253.

31 Further details on the survey and sampling methodologies and the development of the study weights are available in the BCFP's (2017c) National Financial Well-Being Survey Public Use File User Guide (https://www.consumerfinance.gov/data-research/financial-well-being-survey-data/).

32 Although the overall sampling design for National Financial Well-Being Survey employed techniques such as probability sampling, stratification, and oversampling to ensure representation of age, race/ethnicity, and poverty level, it did not use the same techniques to ensure representation of veterans.

33 BCFP's reports on financial well-being among U.S. adults (*Financial well-being in America*) and older adults (*Financial Well-Being among Older Adults in the United States*) can be accessed via: https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/

characteristics, savings and income characteristics, financial experiences, behaviors, skills, and attitudes. The insights gleaned into veterans' financial well-being are the first to be published using the Bureau's Financial Well-Being Scale. They lay the foundation for future research. Findings suggest possible patterns that may exist in the U.S. veteran population and point to areas for further exploration and validation.

Sample characteristics

The veteran sample ranges in age from 18 to 94 years with a mean age of 65 and a median age of 69. The sample is overwhelmingly male (92 percent). A 79-percent majority is White non-Hispanic; 9 percent is Black non-Hispanic; and 7 percent is Hispanic. Three quarters is married or living with a partner, and 25 percent financially supported children at the time of the survey. Nearly all (98 percent) have attained at least a high school diploma or equivalent, with 40 percent having attained a Bachelor's or graduate degree. More than half (61 percent) are retired, and about one third (32 percent) are employed. The majority (72 percent) reported annual household incomes of at least $50,000. A large minority (39 percent) resided in the southern United States at the time of the survey.

Exhibit A.1: Sample characteristics

Characteristic	Percentage of Veterans (N = 759)	Characteristic	Percentage of Veterans (N = 759)
Age (in years)	M = 65 (SD = 15)	**Employment status**	
Ages 18 to 24	0	Self employed	4
Ages 25 to 34	4	Work for employer/ military	28
Ages 35 to 44	8	Home-maker	1
Ages 45 to 54	12	Student	0
Ages 55 to 62	10	Sick/disabled	4
Ages 62 to 69	19	Unemployed or laid off	2
Ages 70 to 74	16	Retired	61
Ages 75 to 79	17	**Annual household income**	
Ages 80 and older	15	Less than $50,000	28
Sex		$50,000 or more	72
Female	8	**Federal poverty status**	
Male	92	Less than 100% FPL	3
Race/ethnicity		100 to 199% FPL	10
White non-Hispanic	79	200% or more FPL	87
Black non-Hispanic	9	**Education level**	
Other or multiracial non-Hispanic	5	Less than high school diploma	2
Hispanic	7	High school diploma or GED	21
Marital status		Some college/Associates' degree	37
Married or living with partner	75	Bachelors' degree	20
Never married	7	Graduate or professional degree	20
Separated or divorced	11	**Census region**	
Widowed	8	Northeast	14
Financially supporting children		Midwest	20
Yes	25	South	39
No	75	West	27

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.
NOTES: Values presented are not weighted and should not be compared to values for the U.S adult or older adult populations presented in previous BCFP reports on financial well-being. Percentages for some categories may not add up to 100 due to rounding or missing values.

Mean difference testing

Tests of differences among subgroups

For all findings described in this report, the research team used analysis of variance (ANOVA) methods and pairwise post-hoc t-tests to examine whether the observed differences between subgroups in mean (average) financial well-being scores are statistically significant. The results of significance testing are presented in Appendix B. In the report narrative, we only discuss differences in means that are significant at the $p < .05$ level. This is commonly interpreted as being 95 percent certain that the differences observed result from true differences in the underlying population.

ANOVA provides an omnibus test of whether a significant difference in financial well-being exists among any of the subgroups for a given characteristic.[34] For example, for the characteristic "education," we tested whether the five component subgroups (less than high school, high school diploma/GED, some college or Associates' degree, Bachelors' degree, graduate/professional degree) differ in their average financial well-being, and for the characteristic "sex," we tested whether the two component subgroups (men and women) differ. For characteristics with only two subgroups (e.g., sex), it reveals whether the subgroups' means differ significantly from each other. However, for a characteristic that has three or more subgroups (e.g., education group), ANOVA does not indicate which subgroups differ from each other. Thus, when an ANOVA revealed a significant difference in financial well-being for characteristics with three or more subgroups,[35] we followed up with a series of pairwise post-hoc comparisons (t-tests) to pinpoint which subgroups, in fact, differ significantly from each other. In the post-hoc tests, we compared every possible pairing of subgroups for a characteristic (e.g., whether the average financial well-being of respondents with less than a high school education differs significantly from those with a high school diploma/GED, whether the average financial well-being of those with a high school education differs significantly from those with some college or Associates' degree, and so on).[36]

In Appendix B, significant differences are denoted using a lettering system. Within a given characteristic, each subgroup is assigned a letter, which appears in the second column under the heading "Group label." In the sixth column under the heading "Significantly different from," the letters indicate the subgroups within the same characteristic with significantly different mean financial well-being scores (at the $p < .05$ level). For example, in the display of "generation" in Appendix Exhibit B.2, each subgroup is assigned a different letter as follows: Millennial adults aged 18-35 are "a," Generation X adults aged 36-51 are "b," Baby Boomer adults aged 52-70 are "c," and Silent Generation adults aged 71 and older are "d." For Millennial adults aged 18-35, the collection of letters in the sixth column (b, c and d) indicates that their average financial well-being is significantly different from the two following age groups. In other words, Millennial adults aged 18-35, with an average financial well-being score of 48, have significantly lower financial well-being than adults in Generation X (ages 36-51), Baby Boomers (ages 52-70), and Silent Generation (ages 71 and older).

Limitations of the analysis

The purpose of this report is to describe in broad terms the relationships between financial well-being and a wide range of characteristics and experiences. To do so, we provide simple comparisons of

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34 Since veterans are a subset of the survey sample, we used domain analyses to correctly estimate the variance of financial well-being.

35 We set our significance threshold at the $p < .05$ level.

36 Due to the number of comparisons, we applied Tukey's HSD adjustment to these post-hoc tests.

financial well-being across selected subgroups of veterans. As such, the analysis focuses on bivariate relationships between financial well-being and each of the roughly 23 characteristics examined in this report. It does not explore how different combinations of characteristics are related to financial well-being (e.g., how income and employment are jointly associated with financial well-being). Nor does it statistically control for the potential influence of additional variables on the relationship a given characteristic has with financial well-being (e.g., we do not hold age constant when examining the relationship between health and financial well-being). Although all differences presented in this report have been found to be statistically significant at the 95-percent confidence level, the findings are nonetheless exploratory and descriptive in nature. We do not know whether a relationship we observe between a characteristic and financial well-being is driven by other hidden factors.

In other words, a statistically significant relationship between a characteristic and financial well-being does not imply there is a causal relationship. For instance, the association between financial self-efficacy and financial well-being does not mean that having high financial well-being leads to confidence in achieving financial goals or that feelings of financial self-efficacy predispose one to higher financial well-being. A characteristic may be related to financial well-being for many reasons. Although it is possible that one or more of the characteristics we examine may directly influence financial well-being, it is also possible that the reverse is true—that financial well-being influences one or more of these factors. There may also be underlying unobserved factors that are correlated with both financial well-being and these characteristics that account for the observed associations. For example, the association between financial self-efficacy and financial well-being may exist because individuals who have high levels of income tend to feel better about their financial circumstances and score high on the financial well-being scale and at the same time may also be able to their higher income to achieve their financial goals. For similar reasons, in cases where these initial findings do not indicate an association between a particular factor and financial well-being, it does not necessarily mean that a relationship does not exist.

Only through deeper analysis that controls for multiple factors can the true relationships between these characteristics and financial well-being be identified. Future research can involve more rigorous analytic approaches that separate out the impacts of multiple characteristics and experiences on financial well-being to address the questions raised in this report.

Appendix B. Results

Exhibit B.1: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Individual and Household Characteristics

Characteristic	Group Label	Response Category	Estimated % Of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Education												
	a	Less Than HS Diploma	2%	54	e	13	41	46	49	62	66	15
	b	High School Diploma/GED	21%	60	e	14	42	50	60	70	78	158
	c	Some College Or Associates' Degree	37%	59	e	14	41	51	59	67	77	279
	d	Bachelors' Degree	20%	62	e	15	43	52	62	72	79	154
	e	Graduate/Professional Degree	20%	67	abcd	13	51	58	65	75	84	153
Generation												
	a	Millennial (Ages 18-35)	4%	48	bcd	13	33	37	48	58	65	34
	b	Generation X (Ages 36-51)	15%	55	acd	12	38	49	55	63	70	112
	c	Baby Boomer (Ages 52-70)	38%	61	abd	14	44	53	61	70	80	288
	d	Silent Generation (Ages 71 And Older)	43%	65	abc	14	49	57	64	75	81	325

Exhibit B.1: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Individual and Household Characteristics, cont'd

Characteristic	Group Label	Response Category	Estimated % Of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Home Ownership Status												
	a	Yes	81%	64	b	13	49	55	63	72	80	615
	b	No	19%	51	a	13	34	42	50	59	68	142
Marital Status												
	a	Married Or Living With Partner	75%	62	bc	13	46	54	62	71	79	571
	b	Never Married	7%	56	ad	16	35	46	56	66	79	50
	c	Separated Or Divorced	11%	56	ad	13	41	48	54	64	70	81
	d	Widowed	8%	65	bc	17	47	53	62	75	95	57
Sex												
	a	Male	92%	62	b	14	44	53	61	71	80	696
	b	Female	8%	57	a	12	42	49	58	65	72	63
Physical Health												
	a	Excellent Or Very Good Health	49%	65	b	14	48	56	64	74	82	373
	b	Good To Poor Health	51%	58	a	14	41	50	58	66	76	383
Financially Supporting Children												
	a	Yes	25%	57	b	13	41	49	57	64	72	186
	b	No	75%	63	a	14	46	54	63	72	80	573

[a] Letters indicate the subgroups within the same characteristic with a significantly different mean (at the p<.05 level).

Exhibit B2: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Savings and Income Characteristics

Characteristic	Group Label	Response Category	Estimated % Of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Liquid Savings												
	a	Less Than $250	11%	43	bcdef	10	30	35	42	49	55	69
	b	$250 To 999	7%	49	acdef	12	33	43	50	54	61	46
	c	$1,000 To 4,999	15%	55	abdef	11	42	50	56	61	67	97
	d	$5,000 To 19,999	21%	61	abcef	11	50	54	61	67	75	138
	e	$20,000 To 74,999	21%	66	abcdf	11	53	58	65	73	79	138
	f	$75,000+	25%	71	abcde	12	58	63	70	79	88	164
Ability To Absorb Financial Shock												
	a	I Am Certain I Could Come Up With The Full $2,000	79%	66	bcd	12	52	58	65	73	81	580
	b	I Could Probably Come Up With $2,000	11%	49	ad	8	37	45	49	54	58	78

Exhibit B2: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Savings and Income Characteristics, cont'd

Characteristic	Group Label	Response Category	Estimated % Of Sample	Mean	Significantly Different From [b]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Liquid Savings, con't												
	c	I Could Probably Not Come Up With $2,000	4%	44	a	10	31	38	43	49	56	26
	d	I Am Certain I Could Not Come Up With $2,000	7%	41	ab	10	29	33	41	48	53	52
Household Income												
	a	Less Than $50,000	28%	55	b	14	37	47	55	64	74	214
	b	$50,000+	72%	64	a	13	48	56	63	72	81	545
Income Volatility												
	a	Income Is Stable Month-To-Month	82%	62	b	14	46	54	61	71	79	622
	b	Income Varies Month-To-Month	18%	58	a	16	38	48	59	69	79	134

[a] Letters indicate the subgroups within the same characteristic with a significantly different mean (at the p<.05 level).

Exhibit B.3: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Financial Experiences

Characteristic	Group Label	Response Category	Estimated % of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Contacted By Debt Collector												
	a	Yes	10%	47	b	13	31	38	46	55	63	76
	b	No	90%	63	a	13	48	54	62	72	80	681
Use Non-Bank, Short-Term Credit (Payday Loan, Pawn, Auto Title)												
	a	Yes	3%	48	b	12	31	42	47	55	68	20
	b	No	97%	62	a	14	44	53	61	71	79	739
Experienced Any Negative Financial Shocks												
	a	Yes	43%	58	b	14	40	48	58	67	76	327
	b	No	57%	64	a	14	49	55	63	73	81	432
Turned Down For Credit												
	a	Yes	7%	44	b	10	32	37	44	49	59	55
	b	No	93%	63	a	14	47	54	62	71	80	698
Use Of Banking Services-Have Checking Or Savings Account												
	a	Yes	91%	62	b	14	44	53	62	71	79	690
	b	No	9%	55	a	15	38	47	53	62	76	69
Have Student Loan Debt (For Self Or Another)												
	a	Yes	7%	50	b	13	33	40	51	58	65	50
	b	No	93%	62	a	14	46	53	62	71	80	709
Responsibility For Own Finances												
	a	Someone else	6%	53	bc	15	33	40	54	64	73	48
	b	Both me and someone else	38%	62	a	13	45	53	62	70	77	289
	c	Me	56%	62	a	14	44	52	61	72	81	421
Have Difficulty Making Ends Meet												
	a	Yes	26%	46	b	10	33	40	47	53	58	193
	b	No	74%	67	a	11	53	58	65	74	82	562

Exhibit B.3: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Financial Experiences, cont'd

Characteristic	Group Label	Response Category	Estimated % of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Experience Material Hardship												
	a	Yes	17%	45	b	11	32	38	46	51	58	130
	b	No	83%	65	a	12	51	57	63	73	80	629

[a] Letters indicate the subgroups within the same characteristic with a significantly different mean (at the p<.05 level).

Exhibit B.4: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Behaviors, Skills and Attitudes

Characteristic	Group Label	Response Category	Estimated % of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Effective Day-To-Day Money Management Behaviors												
	a	Above median level	64%	66	b	12	52	58	65	74	82	489
	b	At or below median level	36%	53	a	13	35	43	52	60	70	270
Financial Knowledge												
	a	Above median level	66%	65	b	14	49	57	64	73	82	503
	b	At or below median level	34%	55	a	13	38	47	55	63	73	256
Financial Skill												
	a	Above median level	62%	66	b	13	51	58	65	75	83	471
	b	At or below median level	38%	54	a	12	38	47	53	61	69	288
Self-Efficacy/ Confidence In Ability To Achieve A Financial Goal												
	a	Not high	54%	54	b	12	38	48	55	62	68	409
	b	High	46%	70	a	12	56	62	69	77	86	350
Have A Habit Of Saving												
	a	Yes	58%	67	b	13	52	58	65	75	83	444
	b	No	42%	54	A	12	38	47	54	62	69	315

Exhibit B.4: Financial Well-Being Scores among Veterans and Retired Military Servicemembers by Behaviors, Skills and Attitudes, cont'd

Characteristic	Group Label	Response Category	Estimated % of Sample	Mean	Significantly Different From [a]	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Sample Size
Planning Horizon Of 5+ Years												
	a	Yes	47%	65	b	13	50	57	64	73	82	350
	b	No	53%	58	a	14	41	49	58	67	76	399
Propensity To Plan For Finances												
	a	Above median level	50%	63	b	13	48	56	63	72	80	382
	b	At or below median level	50%	59	a	14	41	50	59	69	78	377

[a] Letters indicate the subgroups within the same characteristic with a significantly different mean (at the p<.05 level).

Exhibit B.5: Coefficients for the pathway to financial well-being among veterans

Dependent Variable	Independent Variable	Coefficient	Stars	*p* Value	Standard Error
Financial well-being					
	Objective financial situation	0.583	***	< 0.001	0.038
	Financial self-efficacy	0.216	***	< 0.001	0.030
	Income	0.037		0.198	0.029
	Self-control	0.081	***	0.003	0.028
	Perceived economic mobility	0.012		0.616	0.025
	Retired	0.115	***	< 0.001	0.027
	Frugality	-0.056	*	0.032	0.026
Objective financial situation					
	Financial behavior	0.766	***	< 0.001	0.057
	Financial self-efficacy	0.017		0.711	0.045
	Income	0.203	***	< 0.001	0.033
	Self-control	-0.066		0.051	0.034
	Perceived economic mobility	0.054		0.097	0.032
	Retired	0.156	***	0.000	0.033
	Frugality	-0.040	***	0.175	0.029
Financial behavior					
	Financial skill	0.314	***	< 0.001	0.040
	Financial self-efficacy	0.366	***	< 0.001	0.03
	Income	0.099	***	< 0.001	0.028
	Self-control	0.133	***	< 0.001	0.036
	Perceived economic mobility	0.041		0.168	0.030
	Retired	0.193	***	< 0.001	0.030
	Frugality	0.088	**	0.007	0.033

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.
NOTE: N = 759. Standardized coefficients presented. * *p* < .05. ** *p* < .01. *** p < .001.
MODEL FIT: χ^2 (df) = 405.521 (54); RMSEA = 0.093; CFI = 0.885, TLI = 0.821, SRMR = 0.046.

Exhibit B.6: Coefficients from sensitivity test with expanded set of controls

Dependent Variable	Independent Variable	Coefficient	Stars	*p* Value	Standard Error
Financial well-being					
	Objective financial situation	0.672	***	0.000	0.049
	Financial self-efficacy	0.193	***	0.000	0.033
	Income	0.088	**	0.005	0.031
	Self-control	0.080	**	0.003	0.027
	Perceived economic mobility	0.038		0.124	0.025
	Retired	0.000		0.993	0.051
	Frugality	-0.037		0.152	0.026
	Black, non-Hispanic	0.111	***	0.000	0.027
	Other race, non-Hispanic	0.020		0.440	0.026
	Multi-racial, non-Hispanic	-0.008		0.746	0.024
	Hispanic	0.021		0.367	0.023
	Female	0.014		0.591	0.026
	Age	0.061		0.127	0.040
	Married	-0.067	*	0.016	0.028
	Education level (Bachelor's degree)	-0.010		0.682	0.025
	Employed	-0.027		0.555	0.046

Dependent Variable	Independent Variable	Coefficient	Stars	*p* Value	Standard Error
	Employer benefits	-0.147	***	0.000	0.029
	Discount/time preference	-0.017		0.500	0.025
	Financially support children	-0.017		0.462	0.023
	Professional financial advice	-0.030		0.243	0.026
	Family financial socialization	-0.008		0.770	0.026
Objective financial situation					
	Financial behavior	0.662	***	0.000	0.061
	Financial self-efficacy	0.046		0.287	0.043
	Income	0.156	***	0.000	0.034
	Self-control	-0.057		0.083	0.033
	Perceived economic mobility	0.031		0.314	0.031
	Retired	0.178	**	0.003	0.060
	Frugality	-0.042		0.105	0.026
	Black, non-Hispanic	-0.104	**	0.002	0.033
	Other race, non-Hispanic	0.002		0.939	0.025
	Multi-racial, non-Hispanic	-0.050	*	0.044	0.025
	Hispanic	-0.069	*	0.025	0.031
	Female	-0.016		0.589	0.030
	Age	0.117	*	0.012	0.046
	Married	0.005		0.873	0.029
	Education level (Bachelor's degree)	-0.008		0.761	0.028
	Employed	0.089		0.126	0.058
	Employer benefits	0.138	***	0.000	0.030
	Discount/time preference	0.063	*	0.020	0.027
	Financially support children	-0.008		0.762	0.025
	Professional financial advice	0.032		0.285	0.030
	Family financial socialization	0.035		0.198	0.027
Financial behavior					
	Financial skill	0.329	***	0.000	0.039
	Financial self-efficacy	0.343	***	0.000	0.034
	Income	0.028		0.331	0.028
	Self-control	0.117	***	0.000	0.033
	Perceived economic mobility	0.020		0.493	0.029
	Retired	-0.006		0.917	0.057
	Frugality	0.053		0.099	0.032
	Black, non-Hispanic	-0.103	**	0.001	0.032
	Other race, non-Hispanic	-0.039		0.296	0.037
	Multi-racial, non-Hispanic	0.012		0.533	0.020
	Hispanic	-0.049		0.097	0.030
	Female	0.020		0.467	0.028
	Age	0.205	***	0.000	0.039
	Married	0.017		0.555	0.029
	Education level (Bachelor's degree)	0.026		0.351	0.027
	Employed	-0.044		0.398	0.052
	Employer benefits	0.072	*	0.014	0.029
	Discount/time preference	0.114	***	0.000	0.026
	Financially support children	0.006		0.799	0.023
	Professional financial advice	0.087	**	0.001	0.027
	Family financial socialization	0.035		0.212	0.028

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.
NOTE: N = 759. Standardized coefficients presented. * $p < .05$. ** $p < .01$. *** $p < .001$.
MODEL FIT: χ^2 (df) = 538.694 (124); RMSEA = 0.066; CFI = 0.881, TLI = 0.811, SRMR = 0.032.

Exhibit B.7: Coefficients from sensitivity test with veteran-specific set of controls

Dependent Variable	Independent Variable	Coefficient	Stars	*p* Value	Standard Error
Financial well-being					
	Objective financial situation	0.576	***	0.000	0.040
	Financial self-efficacy	0.188	***	0.000	0.031
	Life stress	-0.113	***	0.000	0.027
	Housing satisfaction	-0.002		0.951	0.030
	Retired	0.073	**	0.005	0.026
	Self-control	0.049		0.077	0.028
	Positive life outlook	0.052		0.081	0.030
	Negative financial shocks	-0.003		0.887	0.024
	Professional financial advice	-0.016		0.528	0.025
	Financial planning horizon (5+ years)	-0.006		0.829	0.026
Objective financial situation					
	Financial behavior	0.734	***	0.000	0.057
	Financial self-efficacy	0.006		0.894	0.044
	Life stress	-0.024		0.465	0.033
	Housing satisfaction	0.139	***	0.000	0.038
	Retired	0.059		0.062	0.032
	Self-control	-0.069		0.057	0.036
	Positive life outlook	0.000		0.992	0.038
	Negative financial shocks	-0.109	***	0.000	0.027
	Professional financial advice	0.079	**	0.008	0.030
	Financial planning horizon (5+ years)	-0.092	**	0.001	0.029
Financial behavior					
	Financial skill	0.334	***	0.000	0.040
	Financial self-efficacy	0.337	***	0.000	0.035
	Life stress	-0.021		0.530	0.033
	Housing satisfaction	0.111	**	0.004	0.038
	Retired	0.120	***	0.000	0.030
	Self-control	0.136	***	0.000	0.036
	Positive life outlook	-0.009		0.816	0.040
	Negative financial shocks	-0.025		0.370	0.028
	Professional financial advice	0.131	***	0.000	0.026
	Financial planning horizon (5+ years)	-0.076	**	0.004	0.027

SOURCE: Abt Associates calculations based on National Financial Well-Being Survey data.
NOTE: N = 759. Standardized coefficients presented. * $p < .05$. ** $p < .01$. *** $p < .001$.
MODEL FIT: χ^2 (df) = 434.741 (69); RMSEA = 0.084; CFI = 0.886, TLI = 0.821, SRMR = 0.041

Appendix C: Survey Measures

This appendix provides detailed information on all the survey measures included in this report. The first column of each table describes the characteristic being measured, the second column gives the survey question and response options as presented to respondents, and the final column describes how the measure was recoded for analysis in this report, if at all.

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Well-Being		
Financial Well-Being	Please select the response that best indicates how well, in general, each of the following statements describes you or your situation. 1. I could handle a major unexpected expense 2. I am securing my financial future 3. Because of my money situation, I feel like I will never have the things I want in life 4. I can enjoy life because of the way I'm managing my money 5. I am just getting by financially 6. I am concerned that the money I have or will save won't last This statement describes me…. Response options: • Completely • Very well • Somewhat • Very little • Not at all For this next set of statements, we are interested in learning how often you would say that each statement applies to you and/or your situation. How often would you say…? • Giving a gift for a wedding, birthday or other occasion would put a strain on my finances for the month • I have money left over at the end of the month • I am behind with my finances • My finances control my life Response options: • Always • Often • Sometimes • Rarely • Never	Item response theory (IRT) methods were used to produce the financial well-being score from these 10 items. For more information on this scoring procedure and custom Stata code available for scoring, see BCFP Financial Well-Being Scale: Scale Development Technical Report.

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Individual and Household Characteristics		
Education	Highest degree received from GfK panel data: No formal education • 1st, 2nd, 3rd, or 4th grade • 5th or 6th grade • 7th or 8th grade • 9th grade • 10th grade • 11th grade • 12th grade no diploma • High school graduate - high school diploma or the equivalent (GED) • Some college, no degree • Associate degree • Bachelor's degree • Master's degree • Professional or Doctorate degree	Recoded as: • Less than high school • High school diploma or GED • Some college or Associate's degree • Bachelor's degree • Graduate/professional degree
Generation	Self-reported age from GfK panel data: • Continuous age in years (sample range from 18-94)	Recoded as: • Millennial (ages 18-35) • Generation X (ages 36-51) • Baby Boomer (Ages 62 to 70) • Silent Generation (Ages 71 and older)
Homeownership Status	Which one of the following best describes your housing situation? • I own my home • I rent • I do not currently own or rent	Recoded as: • Own • Rent
Marital Status	Self-reported marital status from GfK panel data: • Married • Widowed • Divorced • Separated • Never married • Living with partner	Recoded as: • Married or living with partner • Never married • Separated or divorced • Widowed

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Individual and Household Characteristics continued		
Sex	Self-reported biological sex from GfK panel data: • Male • Female	No recoding
Physical Health	In general, would you say your health is . . . • Excellent • Very good • Good • Fair • Poor	Recoded as: • In good to excellent health • In poor or fair health
Financially Supporting Children	I have no children that I support financially • Yes • No	Recoded as: Financially support one or more children (regardless of residence with respondent): • Yes • No
Measures of Savings and Income		
Liquid Savings	How much money do you have in savings today (in cash, checking, and savings account balances)? • $0 • $1-49 • $50-99 • $100-249 • $250-499 • $500-999 • $1,000-1,999 • $2,000-4,999 • $5,000-9,999 • $10,000-19,999 • $20,000-49,999 • $50,000-74,999 • $75,000 or more	Recoded as: • <$250 • $250-999 • $1,000 to 4,999 • $5,000 to 19,999 • $20,000 to 74,999 • $75,000+
Ability to Absorb Financial Shock	How confident are you that you could come up with $2,000 in 30 days if an unexpected need arose within the next month? • I am certain I could come up with the full $2,000	Recoded as: • 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

Characteristic	Survey Question and Response Options	Recoding for Analysis
	• 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 • I don't know	• I am certain I could not come up with \$2,000
Measures of Savings and Income continued		
Household Income	Self-reported annual household income from GfK panel data: • Less than \$5,000 • \$5,000 to \$7,499 • \$7,500 to \$9,999 • \$10,000 to \$12,499 • \$12,500 to \$14,999 • \$15,000 to \$19,999 • \$20,000 to \$24,999 • \$25,000 to \$29,999 • \$30,000 to \$34,999 • \$35,000 to \$39,999 • \$40,000 to \$49,999 • \$50,000 to \$59,999 • \$60,000 to \$74,999 • \$75,000 to \$84,999 • \$85,000 to \$99,999 • \$100,000 to \$124,999 • \$125,000 to \$149,999 • \$150,000 to \$174,999 • \$175,000 to \$199,999 • \$200,000 to \$249,999 • \$250,000 or more	Recoded as a 2-category variable: • Less than \$50K • \$50K plus
Income Volatility	Which of the following best describes how your household's income changes from month to month? • Roughly the same each month • Roughly the same most months, but some unusually high or low months during the year • Often varies quite a bit from one month to the next	Recoded as: • Income is stable from month to month (roughly the same each month, or roughly the same most months) • Income varies from month to month (often varies)

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Experiences		
Contacted by Debt Collector	In the past 12 months, have you been contacted by a person or company trying to collect a past-due debt from you? Include instances when you were contacted about debts that you believed you did not owe. Do not include instances when the person or company was trying to reach someone else. • Yes • No • Not sure	Recoded as: • Yes, contacted by debt collector in past 12 months • No or not sure
Use non-bank, short-term credit (payday loan, pawn, auto title)	Which of the following, if any, have you used in the past 12 months? • Payday Loan or Cash Advance Loan • Pawn Loan or Auto Title Loan Response options: • Yes • No	Recoded as: • Yes: used any • No: used none
Negative Financial Shock	In the past 12 months, did you or any members of your household experience any of the following? • Lost a job • Had work hours and/or pay reduced or a business I or someone in my household owned had financial difficulty Response options: • Yes • No	Recoded from these two responses as: • Experienced job loss or involuntary reduction in work hours • Experienced no job loss and no involuntary reduction in work hours
Turned Down for Credit	In the past 12 months, has either of the following happened to you? • I applied for credit and was turned down. Response options: • Yes • No	No recoding

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Experiences continued		
Have checking or savings account	Which of the following financial products and services do you currently have? • Checking or savings account at a bank or credit union Response options: • Yes • No	No recoding
Student Loan Debt	Which of the following financial products and services do you currently have? • Student/Education Loan (for yourself or someone else) Response options: • Yes • No	No recoding
Responsibility for Own Finances	Besides regular spending decisions, which of the following options best describes who takes care of the money matters in your household (for example, making investments, paying bills, making decisions)? • Someone else takes care of all or most money matters in my household. • Someone else and I take care of money matters in my household about the same. • I take care of all or most money matters in my household.	No recoding

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Experiences continued		
Have Difficulty Making Ends Meet	In a typical month, how difficult is it for you to cover your expenses and pay all your bills? Response options: • Very difficult • Somewhat difficult • Not at all difficult	Recoded as: • Experienced difficulty making ends meet ("very" or "somewhat" difficult) • No difficulty making ends meet ("not at all" difficult)
Experience Material Hardship	Please indicate whether each of the following statements were often, sometimes, or never true for you in the past 12 months? 1. I worried whether our food would run out before I got money to buy more. 2. The food that I bought just didn't last and I didn't have money to get more. 3. I couldn't afford a place to live. 4. I or someone in my household needed to see a doctor or go to the hospital but did not go because we couldn't afford it. 5. I or someone in my household stopped taking a medication or took less than directed due to the costs. 6. One or more of my utilities was shut off due to non-payment. Response options: • Often • Sometimes • Never	Recoded as: • Experienced material hardship ("often" or "sometimes" experienced one or more of the six forms of material hardship) • No material hardship ("never" experienced any of the six forms of material hardship)

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Behaviors, Skills and Attitudes		
Effective Day-to-Day Money Management Behaviors37	Please indicate how often you have engaged in the following activities in the past six months: 1. Paid all your bills on time. 2. Stayed within your budget or spending plan. 3. Paid off credit card balance in full each month. 4. Checked your statements, bills and receipts to make sure there were no errors. Response options: • Always • Often • Sometimes • Seldom • Never • Not applicable	Recoded as: • Greater than the median level of positive money management behavior • Median or lower level of positive money management behavior In recoding, we (1) created a mean scale score representing the average of all four items for respondents who responded to at least 50 percent of items (two of the four), (2) calculated the weighted median (midpoint) of the mean scale score for the sample as a whole, (3) categorized respondents as having mean scale scores either above the weighted median value or at/below the weighted median.

[37] Questions from Dew and Xiao (2011).

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Behaviors, Skills and Attitudes continued		
Financial Knowledge (Houts and Knoll's Financial Knowledge Scale)[38]	(1) Considering a long time period (for example 10 or 20 years), which asset described below normally gives the highest return? • Savings accounts • Bonds • Stocks (2) Normally, which asset described below displays the highest fluctuations over time? • Savings accounts • Bonds • Stocks (3) When an investor spreads his or her money among different assets, does the risk of losing a lot of money increase, decrease or stay the same? • Increase • Decrease • Stay the same (4) Do you think the following statement is true or false? "If you were to invest $1,000 in a stock mutual fund, it would be possible to have less than $1,000 when you withdraw your money." • True/False (5) Do you think the following statement is true or false? "'Whole life' insurance has a savings feature while 'term' insurance does not." • True/False	Recoded as: • Greater than the median level of financial knowledge • Median or lower level of financial knowledge In recoding, we (1) used look-up tables to convert raw scores (total number correct) on the 10-item Financial Knowledge scale to IRT-based EAP scores, (2) calculated the weighted median (midpoint) of the scale score for the sample as a whole, (3) categorized respondents as having scale scores either above the weighted median value or at/below the weighted median.

[38] Houts & Knoll (under review). Updated scale based on Knoll & Houts (2012).

Characteristic	Survey Question and Response Options	Recoding for Analysis
	• (6) Do you think the following statement is true or false? • True/False "Housing prices in the US can never go down." • True/False (7) Suppose you owe $3,000 on your credit card. You pay a minimum payment of $30 each month. At an Annual Percentage Rate of 12% (or 1% per month), how many years would it take to eliminate your credit card debt if you made no additional new charges? • Less than 5 years • Between 5 and 10 years • Between 10 and 15 years • Never, you will continue to be in debt (8) If interest rates rise, what will typically happen to bond prices? • They will rise • They will fall • They will stay the same • There is no relationship between bond prices and the interest rate (9) Do you think the following statement is true or false? "A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less." • True/False (10) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? • More than today • Exactly the same • Less than today	

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Behaviors, Skills and Attitudes continued		
Financial Skill	Please select the response that best indicates how well, in general, each of the following statements describes you or your situation. 1. I know how to get myself to follow through on my financial intentions. 2. I know where to find the advice I need to make decisions involving money. 3. I know how to make complex financial decisions. 4. I am able to make good financial decisions that are new to me. 5. I am able to recognize a good financial investment. 6. I know how to keep myself from spending too much. 7. I know how to make myself save. This statement describes me…. • Completely • Very well • Somewhat • Very little • Not at all For this next set of statements, we are interested in learning how often this statement applies to you or your situation. How often would you say…? 1. I know when I do not have enough information to make a good decision involving my money. 2. I know when I need advice about my money. 3. I struggle to understand financial information. Response options: • Always • Often • Sometimes • Rarely • Never	Recoded from these 10 items as: • Greater than the median level of financial skill • Median or lower level of financial skill In recoding, we (1) used item response theory (IRT) methods to produce the financial skill scale scores from these 10 items, (2) calculated the weighted median (midpoint) of the scale score for the sample as a whole, (3) categorized respondents as having scale scores either above the weighted median value or at/below the weighted median.

Characteristic	Survey Question and Response Options	Recoding for Analysis
Measures of Financial Behaviors, Skills and Attitudes continued		
Self-Efficacy/Confidence in Ability to Achieve a Financial Goal	If you were to set a financial goal for yourself today, how confident are you in your ability to achieve it? • Very confident • Somewhat confident • Not very confident • Not at all confident	Recoded as: • Not high confidence ("Not at all" to "somewhat confident") • High confidence ("Very confident")
Have a Habit of Saving	Putting money into savings is a habit for me. • Strongly agree • Agree • Agree slightly • Disagree slightly • Disagree • Strongly disagree	Recoded as: • Have a habit of savings ("agree" or strongly agree") • No evidence of a savings habit ("strongly disagree" to "agree slightly")
Planning Horizon of 5 or More Years	In planning your and/or your family's saving and spending, which of the time periods is most important? • The next few months • The next year • The next few years • The next 5 to 10 years • Longer than 10 years	Recoded as: • Plans for the next 5 years or longer • Plans for less than the next 5 years ("next few months" to "next few years")
Propensity to Plan for Finances	We are trying to understand how people differ in how much they plan for money. Don't feel compelled to say that you engage in a lot of planning. We are just as interested in when you do not engage in much planning as when you do engage in a lot of planning. To what extent do you agree or disagree with each of the following statements? 1. I consult my budget to see how much money I have left. 2. I actively consider the steps I need to take to stick to my budget. 3. I set financial goals for what I want to achieve with my money.	Recoded as: • Greater than the median level of propensity to plan • Median or lower level of propensity to plan In recoding, we (1) created a mean scale score representing the average of all four items for respondents who responded to at least 50 percent of items (two of the four), (2) calculated the weighted median (midpoint) of the mean scale score for the sample as a whole, (3) categorized respondents as having mean scale scores either above the weighted median value or at/below the weighted median.

Characteristic	Survey Question and Response Options	Recoding for Analysis
	4. I prepare a clear plan of action with detailed steps to achieve my financial goals. Response options: • Strongly agree • Agree • Neither agree nor disagree • Disagree • Strongly disagree	

Appendix D: Literature Review

Topics covered in this literature

Most of the articles we reviewed used some type of financial indicator as an outcome, a factor, or both. Of the 29 articles reviewed, 20 defined or talked about financial behavior, 16 defined or talked about financial knowledge or literacy, and 10 talked about or defined financial well-being. Occasionally, articles veered outside these three areas and talked about financial resources or financial anxiety, but most articles defined or at least discussed one or more of these three key parameters.

Financial Behaviors

The majority of articles reviewed included some measure of financial behavior in their analyses. Many articles list a range of financial behaviors and either combine them into a composite or aggregate sum or select a few to concentrate as separate factors or outcomes. Financial behaviors were often used as either factors or outcomes and occasionally both factors and outcomes.

Some articles focused on one main factor or different aspects of one theme. These varied, but often included retirement planning (Skimmyhorn 2013; Spiegel and Shultz 2003; Brand et al. 2011; Bell et al. 2014; Bogan Just, and Wansink 2013; Plantier Durband 2007; Agarwal and Mazumder 2013).

Most articles included multiple facets of financial behavior. These facets were not at all standard across articles and often varied in terms of whether they were short term or long-term behaviors, direct or indirect behaviors, or recent or distant behaviors (Hosek and MacDermid Wadsworth 2013; Elbogen 2014; Carlson et al. 2015; Bell 2013; Bell et al. 2009; Elbogen et al. 2015; FINRAIEF 2012; Walstad et al. 2016; Varcoe et al. 2003; Simon, Warner, and Pleeter 2014).

Financial Knowledge/Literacy

About half of articles reviewed mentioned financial knowledge or literacy. While financial behavior was usually defined after it was mentioned, financial knowledge or literacy was often mentioned as being important but was often left undefined. When it was defined, there was almost always more than one factor taken into consideration. Financial knowledge was also often discussed as a potential intervention or a factor leading to outcomes, as opposed to financial behavior, which was usually a factor, or outcome, but not an intervention in itself.

Financial knowledge was often mentioned as something important to take into consideration or an item needing more definition and measured (Simon Warner, and Pleeter 2014; Elbogen 2014, 2015; Elbogen et al. 2013; Agarwal and Mazumder 2013; Luther et al. 1998). Occasionally, one outcome related to financial knowledge or literacy was measured, but this was relatively rare (Bell et al. 2009; Varcoe et al. 2003). Financial knowledge, when it was measured, was often measured on a scale or with a range of factors (Bell et al. 2014; Carlson et al. 2015; Bell 2013; FINRAIEF 2012; Walstad et al. 2016). Financial knowledge was also often included as the intervention itself, which is a context under which financial behavior and financial well-being didn’t fall (Borden et al. 2016; Brand et al. 2011; Plantier Durband 2007).

Financial Well-Being

While fewer articles mentioned financial well-being, those that did often had more than one factor or parameter that they included in their definition, and many used pre-existing carefully developed scales, including the Bureau’s financial well-being scale among others. Some articles only included one item or a few financial well-being indicators (Bogan Just, and Wansink 2013; Walstad et al. 2016; Elbogen et al. 2013). Other articles used multiple parameters to define financial well-being for their articles (Hosek and Shelley MacDermid Wadsworth 2013; Skimmyhorn 2013; Elbogen et al. 2015; Lipari 2006). More so than for other indicators, some articles used pre-defined scales for their definitions of financial well-being (Brunson et al. 1998; Bell et al. 2014; Borden et al. 2016).

Data collection approaches used in this literature

The articles for this survey used a range of data collection approaches, including surveys, administrative data collected by the U.S. Department of Defense or others, and qualitative interviews and focus groups. Often, the selection and methodology for choosing respondents was either purposive or based to some level on convenience sampling.

Many articles drew on a fairly small non-random sample. These samples tended to be based in one location, only included one branch of the military, only included certain ages or ranks, and were rarely longitudinal (Bell et al. 2009; Brand et al. 2011; Fuller and Redfering 1976; Van Houtven et al., 2013; Brunson et al. 1998).

Many researchers used data that already existed or had been collected, often by the military itself. While this often provided larger sample sizes, it still often only targeted a subpopulation of the military community, often had low response rates, and did not allow researchers to tailor their questions to explore certain areas more in-depth (Loughran 2014; Elbogen et al. 2015; Elbogen et al. 2013; Wright et al. 2000;Lipari 2006).

More information on the sample size is included in Table Exhibit D.1 below.

Analytic methods used in this literature

Although we searched for the most rigorous evaluations available, this analysis only identified one randomized control trial. This study used data on randomly assigned financial courses at bases and combined it with army administrative and national credit bureau data to see whether the course led to better financial scores on a range of outcomes (Skimmyhorn 2013). Of the 29 studies, an additional seven were quasi-experimental studies. One study compared the financial well-being of households with and without persons with severe disabilities and/or a veteran to study how veteran status and disabilities predict financial well-being both individually and in conjunction (London, Heflin, and Wilmoth 2011). Another used a servicemember's decision of whether to take a one-time payout or to receive a savings account that will be paid into over time to see whether one predicted better financial satisfaction and well-being in the future (Simon, Warner, and Pleeter 2015). About half (15) of the papers reviews used descriptive analysis. These often used descriptive statistics, ANOVAs, chi-squared tests, and regression analysis to find trends in the data, but few had longitudinal data. Two of the articles focused on using qualitative data, which provided potential insights into some struggles that may be specific to veterans and financial well-being, but were unable to provide the scale of the issues or trends. The analysis also included four literature reviews, which generally combined research on veterans and research on financial well-being while finding that there is a gap in literature focusing specifically on financial well-being of veterans, which echoes our findings in this article.

The table below identifies the study population, sample size, and method of the articles included in this report.

Exhibit D.1: Study population, sample size and analytic method by article

Article	Study Population /Sample	Sample Size	Method
Skimmyhorn (2013)	Active-duty Army soldiers	44,655	Experiment
Agarwal and Mazumder (2013)	Active-duty military personnel	480	Quasi-Experiment
Bell, Gorin and Hogarth (2009)	One branch, location of active military	492	Quasi-experiment
Brand et al.. (2011)	Army soldiers from one base	492	Quasi-Experiment
Griffith (2015)	Army National Guard Soldiers returning from Iraq	4,546	Quasi-Experiment
Lipari (2006)	Spouses of active-duty military servicemembers and civilians	20,412	Quasi-Experiment
London, Heflin, and Wilmoth (2011)	American households	58,686	Quasi-Experiment
Simon, Warner, and Pleeter (2015)	Long-serving military personnel	13,461	Quasi-experiment
Bell (2013)	Soldiers from one brigade	208	Descriptive
Bell (2014)	One branch, location of active military	715	Descriptive
Bogan, Just, and Wansink (2013)	Veterans	750	Descriptive
Brunson, Snow, and Gustafson (1998)	US Naval Veterans	604	Descriptive
Burrell et al.. (2006)	Military spouses at European bases	346	Descriptive
Carlson, Britt, and Goff (2015)	Army soldiers from one port	700	Descriptive
Elbogen (2012)	Iraq and Afghanistan War Vets	1,388	Descriptive
Elbogen (2014)	Iraq and Afghanistan War Vets	1,388	Descriptive
Elbogen et al.. (2013)	Iraq and Afghanistan War Vets	1,090	Descriptive
FINRAIEF (2012)	Active duty servicemembers	1,000	Descriptive
Fuller and Redfering (1976)	Retired military personnel	751	Descriptive
Loughran (2014)	Veterans	8,046	Descriptive
Plantier and Durband (2007)	Military spouses from large military bases	199	Descriptive
Spiegel and Shultz (2003)	Retired Naval Officers	672	Descriptive
Van Houtven et al.. (2012)	Next-of kin to post-911 veterans with polytraumatic injuries	538	Descriptive
Varcoe et al.. (2003)	Marines and their family members	379	Qualitative
Werber et al.. (2008)	Spouses of post-911 junior servicemembers	653	Qualitative
Borden et al.. (2016)	n/a	n/a	Literature Review
Hosek and MacDermid Wadsworth (2013)	n/a	n/a	Literature Review
Luther, Leech, and Garman (1998)	n/a	n/a	Literature Review
Walstad et al.. (2017)	N/A	N/A	Literature Review

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