MILITARY FINANCIAL READINESS

An Examination of the Impact of Financial Behaviors Across Datasets

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This work is an extension of a previous report, titled *Measuring the Effectiveness of Financial Literacy Education and Training Across the Department of Defense*.

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Summary

Purpose

To support Department of Defense (DoD) efforts to establish target outcomes and metrics for financial literacy education and training, this report assessed the impact of specific financial behaviors on financial readiness and developed a deployable tool to support data collection for identified measures associated with financial readiness.

The current report is Phase 2 of a larger project and builds on a **Phase 1 report** titled "Measuring the effectiveness of financial literacy education and training across DoD." One component of the Phase 1 report was a synthesis of the research literature from the last 15 years related to the links between financial behaviors and financial readiness. From this research synthesis, seven financial behaviors consistently linked to financial readiness were identified. These behaviors were:

- paying off credit cards
- using a budget or spending plan
- paying bills on time
- saving for the future unrelated to emergency or retirement
- beginning or maintaining an emergency savings fund
- having a retirement account of investing for retirement
- setting financial goals and making plans to achieve them

In most of the studies reviewed (78 of the 80 identified), these financial behaviors were examined in aggregate (i.e., a cumulative total reflecting the number of healthy financial behaviors individuals engage in). Only 2 published studies examined the relative importance of specific financial behaviors, which is necessary to determine the financial behaviors that matter most for financial readiness.

This research synthesis also led to the development of a social-ecological model that identified factors associated with financial readiness. The model accounted for factors within the individual, family, community, and the larger military and societal context. Factors were categorized to highlight where and how financial literacy education and training efforts will have the most impact. Drawing from this and other research, a program logic model was developed to articulate intended short-, mid-, and long-term outcomes of DoD financial literacy education and training efforts.

This **Phase 2 report** extends the work completed in Phase 1 by empirically evaluating the unique and collective impact of specific financial behaviors for financial readiness across three robust datasets: the Survey of Household Economics and Decisionmaking (SHED), the Status of Forces Surveys (SOFS), and the National Financial Capability Study (NFCS). The datasets, each with distinct strengths, included assessments of multiple financial behaviors and a range of financial readiness indicators.[1]

The overall report is organized into the following three chapters:

- **Chapter 1: SHED Insights**. This chapter examines data from a nationally representative *civilian* sample and lays the groundwork for understanding and confirming behavioral and contextual indicators of financial readiness.
- **Chapter 2: SOFS Insights.** This chapter focuses on data from *military* samples, both Active and Reserve Components, and explores associations between financial behaviors and financial readiness while accounting for military context. Additionally, this chapter uses objective metrics to develop a checklist as a deployable tool to assess financial readiness.
- **Chapter 3: NFCS Insights.** This chapter investigates data from a nationally representative sample of *civilian* and *military* respondents. It explores associations among financial behaviors and indicators of financial readiness and compares responses between civilians and Service members. Moreover, analyses confirm the applicability of a checklist as a deployable tool to distinguish financially ready individuals.

[1] Financial readiness indicators were selected to align with the DoD definition of financial readiness (https://prhome.defense.gov/M-RA/Inside-M-RA/MPP/FINRED/; January 30th, 2025). The following were selected as indicators in one or more of the datasets: (a) current financial condition, (b) financial well-being score, (c) overall satisfaction with life, (d) current financial condition compared to 12 months ago, (e) financial satisfaction, and (f) financial anxiety. Consequently, **financial readiness** is used in the report as an overarching term to refer to these indicators.

At the beginning of each chapter, a review of key findings is provided followed by detailed results and a discussion of actionable steps based on the findings.

> Four key takeaways that emerged across the datasets are:
>
> 1. Individual financial behaviors matter to different extents in promoting financial readiness, but consistency and collective impact of financial behaviors matter more.
> 2. Context matters for financial readiness, and findings support a social-ecological approach to financial literacy education and training efforts.
> 3. Financial readiness is linked to mission readiness.
> 4. A checklist and scoring system can be developed to monitor financial readiness and identify training needs.

1 Individual Financial Behaviors Matter to Different Extents in Promoting Financial Readiness, but Consistency and Collective Impact of Financial Behaviors Matter More

Phase 2 analyses across datasets confirmed the association between identified financial behaviors and financial readiness for both Service member and civilian samples.[2] Findings differentiated *healthy* and *unhealthy* financial behaviors. Further, findings identified the unique impact of various financial behaviors, helping highlight which behaviors matter most. Findings also demonstrated how financial behaviors work together to promote financial readiness.

Healthy Financial Behaviors

Healthy financial behaviors reflect routine practices associated with successful financial management, preparation for and recovery from financial hardships, and building wealth. Multiple healthy financial behaviors were identified as meaningful for financial readiness. Of note, **maintaining an emergency fund** was consistently and robustly associated with financial readiness across datasets.[3]

Other healthy financial behaviors consistently linked to greater financial readiness involved having **retirement savings** and **saving habits unaffiliated with either an emergency fund or retirement (e.g., having met the goal of establishing a safety net)**. Similarly, analyses revealed that **spending less than one's income**–rather than *spending equal to* or *more than one's income*–was consistently associated with greater financial readiness.

Unhealthy Financial Behaviors

Three unhealthy financial behaviors were *consistently* associated with reduced financial readiness across all three datasets. **Problematic credit card behaviors** (e.g., not paying balances in full each month), **using alternative financial services** (**AFS**; e.g., payday loans and auto title loans), and **problematic spending habits** (e.g., spending equal to or more than income) were linked to significantly lower financial readiness, particularly among Service members.

Behavior Combinations and Implications for Financial Education

Although some financial behaviors were more salient than others, Service members with the greatest financial readiness typically engaged in *many* healthy financial behaviors while avoiding *most or all* unhealthy financial behaviors. Hence, while *each* of the behaviors above were uniquely important for financial readiness, it was also true that a specific behavior was not the primary driver of financial readiness.

Education and training efforts might consider that most behaviors are *not independent* of one another. For example, establishing emergency savings is *dependent* on spending habits.

[2] Some counterintuitive findings for Service members were identified and examined in Chapter 3: NFCS Insights.

[3] More nuanced findings about the amount of emergency savings are included in Chapter 2: SOFS Insights.

Accordingly, both proactive and reactive interventions are needed to promote financial readiness. *Proactive* interventions (e.g., helping Service members establish financial goals and make plans to achieve them) are positioned to promote desired healthy behaviors and prevent negative outcomes. Conversely, *reactive* interventions (e.g., helping Service members implement a spending plan to mitigate poor spending habits) curb unhealthy behaviors and prevent further risk.

Implementing complementary education and training strategies that focus on multiple behaviors—especially behaviors that are interreliant—may yield better outcomes than targeting isolated behaviors. For instance, saving money is an example of a desirable healthy behavior that requires the prerequisite behavior of spending less than income (i.e., having available resources).

Findings also suggest that another potential strategy to enhance financial readiness is to improve the overall *ratio* of healthy to unhealthy financial behaviors. It is essential to both bolster healthy behaviors and reduce engagement in negative behaviors.

2 Context Matters for Financial Readiness, and Findings Support a Social-Ecological Approach to Financial Literacy Education and Training Efforts

Building on the social-ecological model developed in Phase 1, which outlined factors that contribute to financial readiness at the individual, family, community, and larger military and societal context levels, Phase 2 analyses accounted for contextual considerations (i.e., control variables).

Generally, these results indicated that financial behaviors and/or readiness often varied based on individual and family factors, such as:

- Financial knowledge,
- Marital status,
- Experiencing relationship problems/strain due to finances,
- Financial dependents in the home,
- Providing or receiving financial support from family members,
- Having student loans,
- Race, and
- Gender.

Financial knowledge is one of the few identified contextual factors that is malleable by financial education and training efforts. While financial knowledge was not typically associated with indicators of financial readiness directly, financial knowledge was associated with financial behaviors and other contextual considerations.

However, **knowledge discrepancy** emerged as a particularly salient consideration for Service members' financial readiness. Knowledge discrepancy refers to the difference between what a respondent thought they knew (termed subjective knowledge) and what they actually knew (termed objective knowledge). This knowledge discrepancy was most relevant to Service members as they had, on average, *less* objective knowledge while reporting *more* subjective knowledge than civilians.

The identification of a knowledge discrepancy, and its association with financial readiness indicators supports (a) the importance of financial literacy overall, (b) the value of financial literacy education and training targeting knowledge discrepancies, and, consequently, (c) the merit of evaluating training outcomes, particularly objective knowledge compared to subjective knowledge.

Although financial literacy training and education efforts may not directly influence the other salient contextual factors that emerged, such as marital status, these findings point to how efforts could be tailored to the unique social-ecological contexts of Service members. This approach meets individuals where they are—such as a navigating current financial strain within a marital relationship or managing the prospect of additional financial dependents exceeding budget constraints—while concurrently promoting targeted financial behaviors to improve financial readiness.

In this way, the findings pertaining to contextual considerations underscore the importance of financial literacy education and training efforts that are responsive to the diverse social-ecological contexts of Service members.

3 Financial Readiness is Linked to Mission Readiness

Indicators of mission readiness were available in the SOFS datasets, and findings demonstrated that Service members with greater financial readiness generally exhibited greater mission readiness compared to those with lower financial readiness. This association was observed for the following mission readiness indicators: retention intentions, preparedness to perform wartime duties, general physical health, satisfaction with military compensation, and satisfaction with frequency of permanent change of station moves.

These findings support the logic model of DoD financial literacy education and training efforts developed in Phase 1 by illustrating long-term outcomes connected with financial well-being. Namely, training and education efforts that improve financial well-being may improve outcomes at the tactical level (i.e., within the individual service member) and also the operational and strategic levels (i.e. through retention cohesion and readiness).

4 A Checklist and Scoring System Can be Developed to Monitor Financial Readiness and Identify Training Needs

Cumulative findings led to the determination that a brief, behavior-focused checklist assessment and an accompanying scoring guide could be developed. A proof-of-concept exemplar was generated with questions and score values selected based on their demonstrated relevance and contribution to financial readiness, as evidenced by results from the SOFS datasets (a military sample) (see Appendix 2.B). The checklist concepts were then validated using the NFCS dataset, which includes both civilian and military samples (see Appendix 3.B).

This checklist could serve as a simple yet effective deployable tool for broadly assessing Service members' financial readiness and informing what financial literacy education and training efforts could be beneficial. While multiple robustness checks support its utility, future efforts to adapt and refine the tool are necessary before its deployment.

CHAPTER 1

Insights from the Survey of Household Economics and Decisionmaking

Purpose: To investigate the impact and salience of specific financial behaviors on indicators of financial readiness.

Data Examined: Five years (2019–2023) of publicly available data were analyzed from the Survey of Household Economics and Decisionmaking (SHED), a nationally representative, online panel study collected annually; data were predominantly cross-sectional with new respondents each year, although some respondents participated in multiple years. Analytic samples were limited to respondents between 21 and 61 years of age to more closely reflect the age range of the military population (analytic sample sizes ranged from 7,247 respondents in 2023 to 7,991 respondents in 2019).

Financial Behaviors (Explanatory Variables): The financial behaviors examined in this investigation were having an emergency fund, having a retirement savings account, spending habits, credit card payment behavior, and using alternative financial services (AFS). These behaviors are relevant to financial literacy education and training efforts because of their diversity and their modifiable nature.

Indicators of Financial Readiness (Outcome Variables): Analytic outcomes reflected a range of financial readiness indicators and comprised respondents' current financial condition, score on the Consumer Financial Protection Bureau's (CFPB) financial well-being scale, overall satisfaction with life, and financial condition compared to 12 months ago.

Contextual Considerations (Controls): As control variables, analyses accounted for nonbehavioral factors that also tend to impact financial readiness in order to isolate the unique impact of the behaviors of interest. Control variables were household income, income volatility, marital status, race, financial support to others outside the home, children under 18 in the home, employment status, age, gender, rental status, food assistance (SNAP), student loans, banking account status, educational attainment, and objective financial knowledge.

See **Figure 1.1** for an example model and **Appendix 1** for detailed information on the available measures.

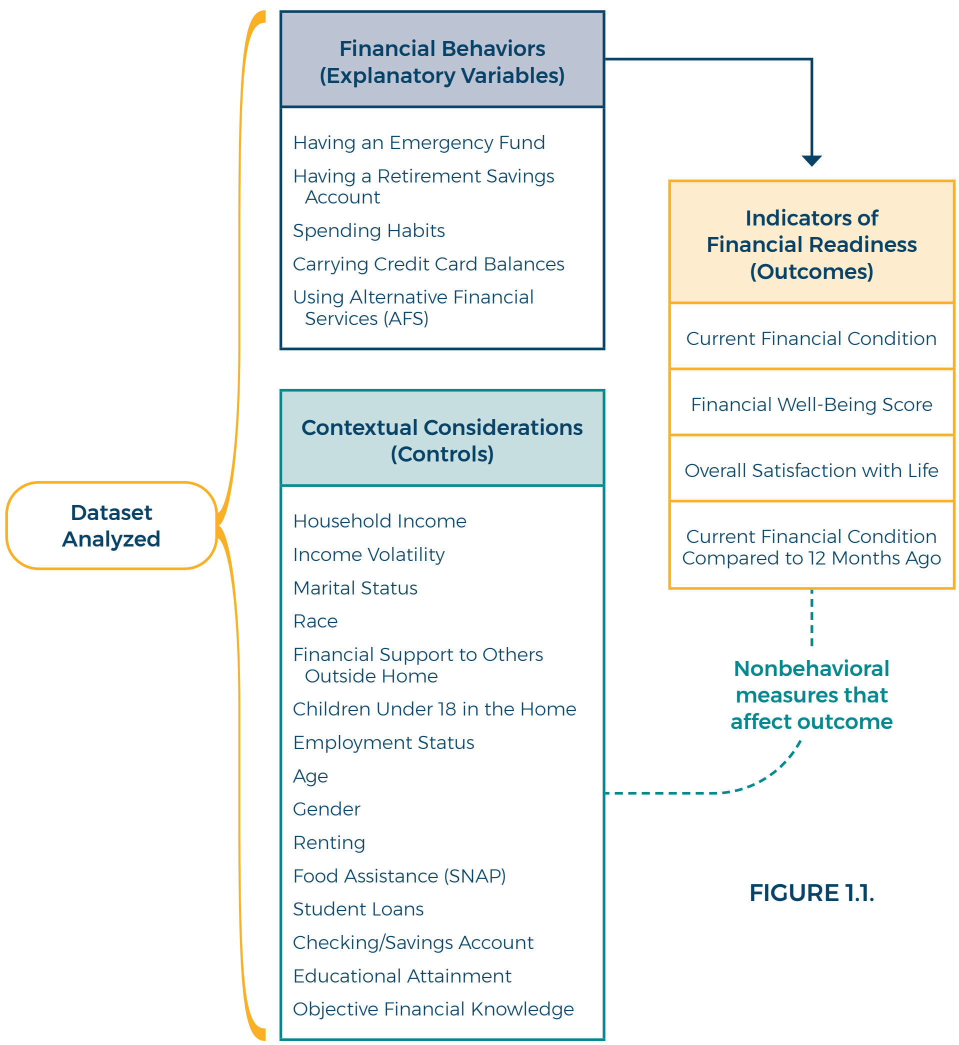


FIGURE 1.1.

Guide for Interpretation

The results presented describe the *uniqure* variation in outcomes explained by each *isolated* financial behavior *after* accounting for other nonbehavioral correlates in the models.

Analytic Summary: Multiple regression models were examined to identify whether, and to what extent, each financial behavior uniquely explained variation in the financial readiness indicators; separate models were fitted for each available year of data and outcome. Some outcomes were not available at all time points. In total, 24 models were estimated.

Results: Across models, several financial behaviors were *consistently* related to outcomes indicating financial readiness. Other financial behaviors were less consistently related to the outcomes examined, suggesting that their association with financial readiness is specific to the particular outcome investigated—i.e., dependent on how *financial readiness is measured*. Thus, evidence seems to point toward some "universal" financial behaviors that are consistently informative for assessing readiness, whereas others are more relevant for certain outcomes. These themes and trends are detailed below.

SECTION 1

Findings About Financial Behaviors

Healthy Financial Behaviors Consistently Connected to Financial Readiness[1]

Having an Emergency Fund

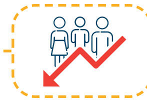
- **Model Results:** Having an emergency fund was consistently associated with better financial readiness outcomes. More specifically, compared to those without an emergency fund, those with enough funds set aside to cover 3 months of expenses generally had a *better financial condition*, *greater financial well-being*, and *greater life satisfaction.*
- **Interpretation:** An emergency fund acts as a financial safety net, providing a buffer against unexpected expenses or income disruptions. It can alleviate financial stress, reduce the need to rely on high-cost borrowing options like AFS, and promote a sense of financial security. Research highlights that those with emergency savings are better equipped to navigate financial shocks, which contributes to overall financial resilience.

Having a Retirement Savings Account

- **Model Results:** Having a retirement savings account, such as a 401(k) plan through an employer, IRA, or Roth IRA (wording from the SHED questionnaire), was consistently associated with better outcomes. Compared to those without a retirement savings account through an employer, those with a retirement savings account through an employer generally had a *better financial condition*, *greater financial well-being*, and *greater life satisfaction.*
- **Interpretation:** Saving for retirement represents long-term financial planning, signaling financial stability and future security. Individuals who prioritize retirement savings often display a future-oriented mindset, which is associated with numerous healthy financial behaviors.

[1] These measures are counted as "statistically significant" explanatory variables in 80% or more of models per year and 80% or more of years examined.

Unhealthy Financial Behaviors Consistently Connected to Less Financial Readiness



Spending Habits

- **Model Results:** Those who spent more than their income in the past month generally exhibited less financial readiness. Compared to those who spent "Less than" their income, those who spent "The same" as or "More than" their income in the past month generally had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.
- **Interpretation:** In addition to its unique influence on financial readiness, spending equal to or more than one's income disrupts financial planning, often leading to risky coping strategies such as using AFS or not paying credit card bills in full. Thus, risky financial behaviors can proliferate to increase the risk of poor financial readiness.

Carrying Credit Card Balances

- **Model Results:** Carrying a credit card balance was consistently associated with worse financial readiness outcomes. Compared to those who "Never carried a balance (pay in full each month)," those who carried a credit card balance "once," "some," or "most" of the time in the past 12 months generally had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.
- **Interpretation:** Carrying a credit card balance may indicate numerous financial concerns, such as insufficient savings, income volatility, or a lack of an emergency fund. Research suggests that relying on credit cards for everyday expenses and not paying them off in full each month can create a debt cycle, as accumulating interest on unpaid balances reduces disposable income, further straining financial stability and increasing stress. Like spending habits, carrying credit card balances might reflect self-regulation and impulse control challenges, which undermine overall financial readiness.

Financial Behaviors Connected to Selected Measures of Financial Readiness[2]

Using Alternative Financial Services (AFS)

- **Model Results:** Across several models, using AFS in the past 12 months was negatively associated with financial condition. Those who had used any of the three AFS options assessed (i.e., payday loan, pawn shop or auto title loan, and advance on tax refund) generally had a *worse financial condition* and *lower life satisfaction* than those who did not use any of these AFS.
- **Interpretation:** Research indicates that using high-interest, predatory financial services can exacerbate financial stress and create long-term barriers to achieving financial stability. AFS use may reflect underlying issues such as income volatility and lack of appropriate budgeting.

Contextual Indicators Consistently Connected to Financial Readiness

moving on to contextual indicators

Household Income

- **Model Results:** Greater household income had a small, but consistently significant and positive, association with financial readiness. Compared to those in lower income brackets, those with higher household incomes generally had a *better financial condition*, *greater financial well-being*, and *greater life satisfaction*.
- **Interpretation:** While those with a higher household income had a greater probability of a positive financial condition, the magnitude of associations was generally stronger for financial behaviors. That is, behaviors, such as having an emergency fund and spending within one's means, were more strongly related to financial condition than income was.

Income Volatility

- **Model Results:** Income volatility in the past 12 months was consistently associated with less financial readiness.

[2] These measures are counted as "statistically significant" explanatory variables in *less* than 80% of models per year and/or *less* than 80% of years examined.

Compared to those whose income was "roughly the same amount each month," those who experienced more income fluctuations had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.

- Interpretation: Income instability disrupts financial planning and can force individuals to resort to unhealthy coping strategies, such as carrying a credit card balance. Research also indicates that stable income is crucial for building and maintaining financial health, as it enables consistent saving, budgeting, and debt management. Frequent income fluctuations may also increase financial stress and reduce an individual's ability to adapt to unexpected expenses, thus undermining overall financial readiness.

Contextual Indicators Connected to Selected Measures of Financial Readiness

Marital Status (Married)

- Model Results: Across several models, being married was associated with better financial readiness. Compared to those who were not married, those who were married generally had a *better financial condition* and *greater life satisfaction*.
- Interpretation: Married individuals often have access to more shared resources and may experience greater financial stability, which correlates with better financial outcomes and is supported by literature on household economics.

Race (White)

- Model Results: Across several models, race occasionally emerged as an indicator of financial condition. Compared to non-White respondents, White respondents generally had a *better financial condition* and *greater life satisfaction*.
- Interpretation: Disparities in financial outcomes based on race are well-documented, with non-White individuals generally reporting poorer financial conditions due to systemic challenges such as income inequality and access to resources.

Financial Support to Anyone Living Outside the Home

- Model Significance: In some models, those who provided regular financial support to anyone living outside their home (such as a parent, child, other relatives, or friends) had less financial readiness than those who were not supporting others. Compared to those who were not supporting others, those who were providing financial support to others outside the home generally had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.
- Interpretation: Providing financial support to others outside the home (e.g., extended family) can strain an individual's resources, thereby "competing" with healthy behaviors such as saving for personal goals, emergency funds, or debt repayment. However, supporting others is often rooted in cultural or familial expectations and values, which may be difficult to change through cognitive education focused narrowly on healthy financial behaviors.

Children Under 18 in Home (Financial Dependents)

- Model Results: Across most models, those with children under the age of 18 in their home often had less financial readiness than those without children in their home. Compared to those without children under 18 in the home, those who did have children under 18 in the home generally had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.
- Interpretation: Having children increases household expenses, which might negatively impact financial well-being, especially if household income is not commensurate with the additional financial responsibility. Although Service members receive compensation for additional dependents, it is unclear from these findings with a civilian sample if the military compensation fully offsets the financial strain children impose on family money management.

Gender (Male)

- Model Results: Across some models, men generally had less financial readiness than women. Compared to women, men generally had a *worse financial condition* and *lower life satisfaction*.
- Interpretation: While gender differences exist, the effects were smaller in comparison to specific financial behaviors and other demographic variables.

Renting

- **Model Results:** Across several models, those who were renting their housing generally reported less financial readiness than other housing statuses. Compared to those who owned their homes or did not rent, those who rented had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.
- **Interpretation:** Homeownership is a traditional indicator of financial stability, but given the frequent relocations of active-duty Service members, it is unclear if these findings related to housing translate to military families.

Participating in the Supplemental Nutrition Assistance Program (SNAP)

- **Model Results:** Participating in the Supplemental Nutrition Assistance Program (SNAP) in the past 12 months was related to less financial readiness. Compared to those who did not receive SNAP, those who did receive SNAP generally had a *worse financial condition* and *lower life satisfaction*.
- **Interpretation:** Participation in SNAP likely reflects underlying financial hardship, rather than being a direct cause of less financial readiness. That is, the hardship likely exists *before* SNAP benefits are applied for and received. This finding highlights the importance of considering *timing* when using data to evaluate financial outcomes and intervention impact.

Student Loans

- **Model Results:** Across several models, having student loan debt was related to less financial readiness. Compared to those who did not have student loans, those who did have student loans generally had a *worse financial condition*, *lower financial well-being*, and *lower life satisfaction*.
- **Interpretation:** The burden of student loan debt reduces disposable income and financial flexibility, contributing to poorer financial outcomes. Presumably, however, student loans suggest increased educational attainment, an indicator positively associated with financial well-being and financial condition. This finding highlights the nuance in interpreting metrics with complex interrelationships.

SECTION 2
Additional Findings

- **Financial conditions take time to change.** Although longitudinal data were not available for most respondents, for a subset of individuals who did complete the survey 2 years in a row, individuals' financial condition generally did not change significantly within 12 months. Instead, financial condition in the preceding year was a significant determinant of financial condition the following year. Thus, there is a large degree of consistency in financial readiness. For intervention/prevention efforts, there is a need for expectation management. For instance, education and training efforts can teach and encourage healthy financial behaviors, but behaviors must be sustained over time for changes in financial condition to occur.
- **Objective financial knowledge, though small in effect magnitude, increases the probability of a more favorable financial condition.** Objective financial knowledge was limited to three broad knowledge questions about understanding interest and the safety of saving options. Yet, regardless of differences in other attributes (e.g., age, gender, race, behaviors), those who answered the knowledge questions correctly generally had a more favorable financial condition. The differences were more pronounced when financial knowledge was combined with positive financial behaviors. Thus, while objective financial knowledge alone has a small association with financial condition, knowledge coupled with healthy behavior can have a positive, compounding effect on financial readiness.
- **Not all statistically significant associations are equal in magnitude, and financial behaviors are generally more strongly associated with financial readiness than income, particularly considering the cumulative influence of multiple behaviors.** To demonstrate this, Table 1.1 below indicates the average change in financial condition for the most impactful explanatory variables (including financial behaviors and control variables). As shown, holding all other measures constant, a 1-unit increase in household income

(e.g., moving from the $25,000–$49,999 bracket to the $50,000–$74,999 bracket) is associated with a **1.5% increase** in the probability of being in a better financial condition. However, when holding all other measures constant including household income, **using AFS** decreases the probability of being in a better financial condition by **8.5%** compared to those who do not use AFS. Thus, while household income *does* increase the probability of financial readiness, targeted behavioral interventions may be more effective given the magnitude of their association with financial condition.

TABLE 1.1 MEASURES ASSOCIATED WITH THE LARGEST CHANGES IN FINANCIAL CONDITION (AVERAGING ACROSS OVERALL ABSOLUTE VALUE 2021–2023)

	Explanatory Variable	Average Effect Size	Probability of Better Financial Condition
Largest	Using alternative financial services (AFS)	8.5 %*	−
	Respondent's financial condition in the previous year	7.2%	+
	Spending more than one's income in the last month	5.0%	−
	Participating in SNAP in the past 12 months	4.0%*	−
	Having an established emergency fund	2.0%	+
	Household income	1.5%	+
	Carrying credit card balances	1.4%	−
	Having children under 18 in the home	1.1%*	−
	Having a college degree (4yr +)	1.0%*	+
	Changing homeownership status	0.7%*	Depends on circumstance
Smallest	Having a retirement savings account	0.6%*	+

Notes. *Measure not available every year. SNAP = Supplemental Nutrition Assistance Program.

- **Financial behaviors can have cumulative, compounding effects on financial readiness.** Profiles were estimated to show the probability of different financial conditions based on various behavior combinations for men between the ages of 21 and 24 with a household income between $25,000–$49,999. One implication from the findings is that a multipronged strategy focusing on multiple behaviors simultaneously could lead to more meaningful improvements in financial condition, even without an increase in income (see Figure 1.2).

Example of "Financially Challenged" Characteristics

- Using alternative financial services (AFS)
- Spending more than income per month
- Carrying credit card balance most or all of the time
- Does not have an emergency fund
- Does not have a retirement savings account
- Does have children under the age of 18 in the home
- Is not married
- Renting
- Does not have a 4yr+ college degree
- Is employed full- or part-time
- Household income is $25,000–$49,999
- Has an average overall satisfaction with life score

Example of "Financially Well-Situated" Characteristics

- Does not use alternative financial services (AFS)
- Spending less than income per month
- Does not carry credit card balances (pays in full each month)
- Does have an emergency fund
- Does have a retirement savings account
- Does not have children under the age of 18 in the home
- Is married
- Owns home with a mortgage
- Does have a 4yr+ college degree
- Is employed full- or part-time
- Household income is $25,000–$49,999
- Has an average overall satisfaction with life score

Cell values = probability of each financial condition		Lower Levels	Doing Okay	Living Comfortably
White Male (2021 SHED example) **Income remains the same; behaviors and related characteristics change.*	**Financially Challenged Male Aged 21–24**	84.64%	14.60%	0.76%
	Financially Well-Situated Male Aged 21–24	2.85%	38.23%	58.95%

FIGURE 1.2.

Actionable Items: Behaviors to Target via Financial Literacy Education Initiatives

- Spending Beyond One's Means: Spending habits was a behavior with a sizeable connection to financial readiness outcomes. It may be useful to tailor spending-focused education to account for income volatility, given that income volatility directly relates to spending less than one's income and can be a relatively common occurrence for military families (e.g., relocations to different geographical areas with different expenses, changes in spouse employment).
- Carrying Credit Card Balances: Targeting and expanding upon existing credit card use training may include strategies for reducing reliance on credit, paying down balances, and preventing debt accumulation.
- Use of Alternative Financial Services (AFS): Continued financial literacy education that enhances awareness of the risks associated with AFS (e.g., payday loans) and promotes safer financial products can enhance financial readiness.
- Saving for the Future: Savings was relevant for several behaviors. Hence, an underlying theme of literacy efforts is the importance of saving for the future—both "planned" events like retirement and "unplanned" events like emergencies.

Potential Takeaways From a Military Perspective

1 Contextualizing Findings for a Military Population:

- This sample of civilian respondents includes individuals aged 21–61, with more even gender proportions and more White respondents relative to the military population, which tends to be younger (18–45), more male, and more non-White.
- Unique military-related stressors (e.g., frequent relocations, deployment, and income volatility exacerbated by spousal employment challenges) that were not relevant to this sample may constrain military families' ability to engage in healthy financial behaviors, thereby impacting financial readiness.
- For military and civilian individuals alike, there is a large range of healthy behaviors, with some individuals engaging in *many* healthy behaviors and others engaging in *few*. To meet individuals where they are in pursuit of enhancing financial readiness requires some customization of services. For instance, financially well-situated Service members could focus on sustaining positive behaviors, such as increased contributions to Thrift Savings Plans (TSP). In contrast, financially challenged Service members may require more foundational budgeting and debt management education.

2 Implications for Measuring the Effectiveness of Financial Literacy Education:

- It is vital to establish realistic expectations for the impact of financial education programs, understanding that immediate changes in financial condition will most likely not be noticeable. For instance, the findings point to the high degree of stability in financial readiness outcomes over time and the *numerous* contributing factors over which individuals have varying degrees of control. Instead, tracking long-term, gradual improvements in financial behaviors could offer more valuable insights than short-term measures, which produce results that may fluctuate for various reasons. Further, while these findings point to overarching behaviors that literacy education should target, specific measures of education efficacy *must* be specifically aligned with the education content itself.

Insights from Status of Forces Surveys

Purpose: To investigate the impact and salience of specific measures of financial behaviors on indicators of financial readiness in a military sample as well as associations among financial knowledge, financial readiness, and mission readiness.

Data Examined: Four Status of Forces Survey (SOFS) datasets were analyzed: 2020 Active Duty members (SOFS-A), 2020 Reserve Component members (SOFS-R), 2022 SOFS-A, and 2022 SOFS-R. The use of survey weights in the analyses allow the results to be generalized to the entire Force. Analytic sample sizes ranged from 11,229 (2022 SOFS-A) to 13,458 (2022 SOFS-R). For each year, elements from the Basic Use File of the surveys were available for analysis.

Financial Behaviors (Explanatory Variables): The primary financial behaviors examined in this investigation were credit card payment behavior, maintaining an emergency fund, saving versus spending habits, using alternative financial services (AFS), having or meeting goals for saving for retirement, saving for a safety net, paying off education loans, being debt-free, making short- and long-term financial plans, contributing to savings and retirement accounts, monitoring one's credit score, budgeting, and reviewing one's Leave & Earning Statement (LES).

Indicators of Financial Readiness (Outcome Variables): As indicators of financial readiness, the primary analytic outcomes were respondents' score on the Consumer Financial Protection Bureau (CFPB)'s financial well-being (FWB) scale and their financial condition.[1]

Indicators of Mission Readiness (Downstream Outcomes): As indicators of mission readiness, satisfaction with compensation, general health, unit cohesion, retention intent, satisfaction with permanent change of station (PCS), and Service member preparedness were assessed, conceptualizing mission readiness as a potential consequence of financial readiness.

Contextual Considerations: As control variables, regression analyses accounted for nonbehavioral factors that may also have implications for financial readiness, such as pay grade, Service branch, general and military-specific financial knowledge, personal stress, work stress, receiving financial information from the military, and marital status.[2] These factors were selected based on existing research and availability in the Basic Use File.

In predictive modeling, four economic hardship experiences were incorporated to account for unique indicators of financial strain: having personal relationship problems with your partner due to finances, taking money out of a retirement fund or investment to pay living expenses, borrowing money from family and/or friends to pay bills, and having to pay overdraft fees to your bank or credit union two or more times.

Analytic Summary: Subgroup analyses, multiple regression models, and predictive modeling were utilized to assess the extent to which each financial behavior uniquely explained variation in Service members' financial readiness. The analysis also examined the relationship between financial readiness indicators and indicators of mission readiness.

Results: The results revealed a strong association among financial behaviors, financial readiness, and mission readiness.

- Service members who engaged in healthy financial behaviors—such as saving with a plan and avoiding AFS usage—generally had greater financial readiness, as indicated by higher FWB scores and a more comfortable financial condition than those who did not engage in healthy financial behaviors.
- General and military-specific financial knowledge scores were also higher among Service members with higher FWB scores, suggesting a link between financial literacy and readiness. Analysis of economic hardship experiences, such

[1] The Pearson correlation coefficient between financial well-being scores and financial condition was consistently robust, which supports the conceptualization of these as measures of a similar overarching concept (r ranged from 0.69 in the 2020 SOFS-R to 0.72 in the 2022 SOFS-A).

[2] Marital status was not made available in either SOFS-R Basic Use File dataset.

- as relationship strain due to finances and reliance on borrowing, showed that these challenges were more prevalent among those at or below the median FWB score than those above the median FWB score.
- Furthermore, Service members with high FWB scores generally reported higher values on elements of mission readiness—such as unit cohesion and retention intent—than did those with low financial readiness, indicating that financial readiness may support mission readiness. Predictive models using healthy behavior scores effectively distinguished Service members with high and low financial readiness.

See Appendix 2.A for detailed information on the measures.

Key Findings

1. Variable Summaries for Financial Readiness Indicators:

- Trends in Financial Well-Being (FWB): Mean FWB scores among Service members were higher than civilian averages as reported by the CFPB, suggesting above-average financial well-being in the military population generally.

2. Associations with Hypothesized Antecedents and Consequences of Financial Readiness:

- FWB and Financial Knowledge: Service members with more financial knowledge generally had higher FWB scores than those with less financial knowledge.
- FWB and Mission Readiness: Higher FWB scores were positively associated with mission readiness, specifically, greater unit cohesion, preparedness, general health, and retention intent, suggesting that financial readiness may be an important indicator of salient downstream outcomes.

3. Regression Results:

- Key Regression Findings: Across the four datasets analyzed, several financial behaviors were consistently associated with greater financial readiness (including both FWB scores and financial condition outcomes) among Service members. Findings highlight the benefits of certain financial behaviors, such as saving with a plan and maintaining emergency fund savings, for fostering financial readiness. Conversely, behaviors such as using AFS, paying only the minimum credit card payment each month, and spending as much as or more than income were consistently linked to lower financial readiness.
- Magnitude of Associations: Behaviors varied in their unique impact on financial readiness. Using AFS (-), consistently saving (+), and having 3–6 months of expenses saved for emergencies (+) were identified as the most salient behaviors connected to financial readiness.
- Interpreting Counterintuitive Associations: Regression analysis indicated a few counterintuitive findings. For instance, having a goal to be debt free was more common among Service members in lower FWB categories. It could be that those counterintuitive findings point to certain reactionary financial behaviors (e.g., Service members with low financial readiness desire to be debt free).

4. Analysis of Predictive Models Using Behavior Scores:

- Composite Behavior Scores and FWB Categories: Composite behavior scores, derived from combining multiple measures of specific financial behaviors, were differentially associated with FWB categories, showing a clear association between engagement in more healthy behaviors and greater FWB.
- Effectiveness of Predictive Models Using Behavior Scores: Predictive models utilizing behavior scores and economic hardship experiences (e.g., financial stress in relationships) accurately forecasted Service members' FWB category and financial condition.
- Practical Scoring Guide Checklist: Cumulative findings led to the development of a simplified checklist with seven questions and a scoring guide to assess financial readiness (see Appendix 2.B for detailed information on the scoring guide).

SECTION 1

Variable Summaries for Financial Readiness Indicators

Trends in Financial Well-Being (FWB)

The CFPB's research indicates that FWB scores of 50 or below are strongly associated with financial challenges and economic hardship.[3] In contrast, the mean (average) FWB scores for the SOFS data across all years and samples significantly exceeded both the CFPB's 50-point threshold for financial vulnerability and the national average FWB score for civilians of 55 in 2020 and 51 in 2022 (see **Figure 2.1**).[4,5]

Note, the decline in FWB scores between 2020 and 2022 for both military and civilian populations is largely attributed to pandemic-related economic disruptions and the reduction in stimulus support.[6]

NATIONAL AVERAGE FWB AMONG CIVILIANS, ACTIVE DUTY MEMBERS, AND RESERVE COMPONENT MEMBERS

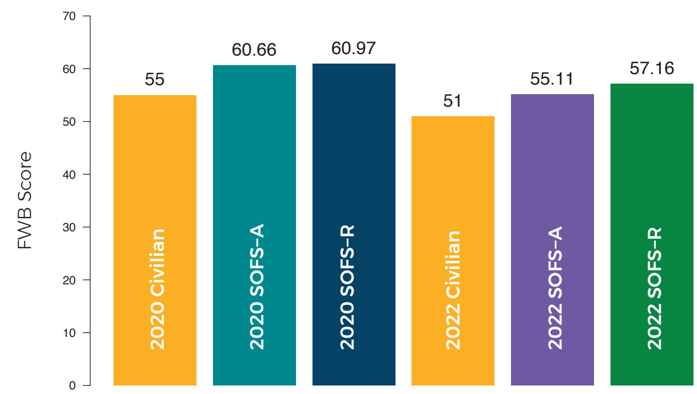


FIGURE 2.1.

MEDIAN FWB SCORE OF SERVICE MEMBERS

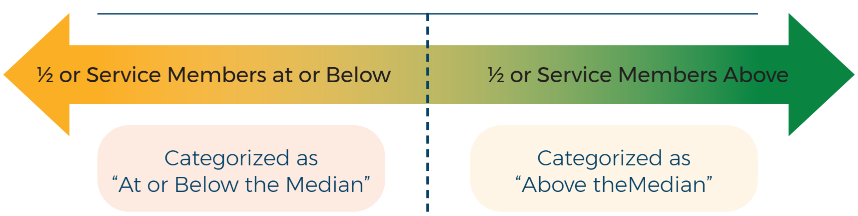


FIGURE 2.2.

TABLE 2.1. MEDIAN FWB SCORES BY DATASET

2020 SOFS-A	2020 SOFS-R	2022 SOFS-A	2020 SOFS-R
60	60	55	57

Guide for Interpretation

As one way of describing Service members' financial readiness, the median financial well-being score was used to classify respondents as either above or at/below the sample's midpoint value (see **Figure 2.2** and **Table 2.1**). This dichotomous indicator was primarily used for predictive modeling and comparative purposes.

[3] See CFPB, "Financial Well-Being in America," September 2017, https://files.consumerfinance.gov/f/documents/201709_cfpb_financial-well-being-in-America.pdf.
[4] See CFPB, "Data Spotlight: Financial Well-Being in America," June 07, 2022, https://www.consumerfinance.gov/data-research/research-reports/data-spotlight-financial-well-being-in-america-2017-2020.
[5] See CFPB, "Making Ends Meet in 2022," December 2022, https://files.consumerfinance.gov/f/documents/cfpb_making-ends-meet-in-2022_report_2022-12.pdf
[6] See CFPB, "Making Ends Meet in 2023," December 2023, https://files.consumerfinance.gov/f/documents/cfpb_making-ends-meet-in-2023_report_2023-12.pdf.

Guide for Interpretation

These six categories align with the CFPB's FWB groupings and were used as cutoffs for subgroup analysis, proportion tables for distribution of behavioral engagement, and predictive modeling.

Another way of exploring Service members' FWB was to categorize respondents by more nuanced levels of FWB scores (e.g., 0–29 reflects highest risk of financial vulnerability, 68–100 reflects lowest risk of financial vulnerability) (see **Figure 2.3**).

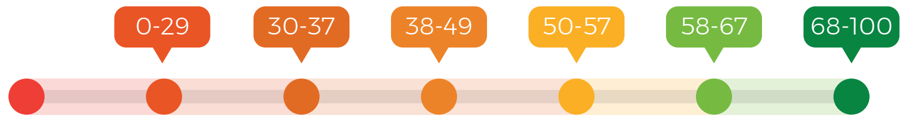


FIGURE 2.3.

The majority of Service members across all four datasets were more likely to be classified in higher FWB categories than lower FWB categories (see **Table 2.1**).

TABLE 2.1. DISTRIBUTION OF SERVICE MEMBERS BY DATASET AND FWB CATEGORY

	FWB Category						
Datasets	0–29	30–37	38–49	50–57	58–67	68–100	Total (*n*)*
2020 SOFS-A	1.38%,	1.67%	10.48%	22.86%	23.00%	40.61%	12,067
2020 SOFS-R	0.65%	1.08%	8.59%	24.17%	24.81%	40.69%	13,299
2022 SOFS-A	2.81%	3.52%	19.99%	26.86%	20.74%	26.08%	11,288
2022 SOFS-R	1.71%	2.61%	15.51%	27.09%	21.93%	31.15%	13,458

Note. *Represents sample used for analysis.

Similarly, the majority of Service members across all four datasets reported a comfortable financial condition rather than lower levels of comfort (see **Table 2.2**). Total sample sizes for FWB and FC differed based on available data for each outcome.

TABLE 2.2. DISTRIBUTION OF SERVICE MEMBERS BY DATASET AND FINANCIAL CONDITION

	Financial Condition					
Datasets	In over your head	Head above water	Some difficulty	Make ends meet	Very comfortable	Total (*n*)*
2020 SOFS-A	0.75%	4.19%	13.72%	42.25%	39.08%	12,044
2020 SOFS-R	0.63%	3.51%	12.18%	46.37%	37.30%	13,269
2022 SOFS-A	1.47%	8.85%	20.25%	41.57%	27.86%	11,229
2022 SOFS-R	1.40%	6.49%	17.60%	40.72%	33.80%	13,422

Note. *Represents sample used for analysis.

SECTION 2

Associations with Hypothesized Antecedents and Consequences of Financial Readiness

Little research has addressed the salience of *specific* behaviors for financial well-being, particularly in unique subpopulations such as *Service members*. Moreover, research has not established whether Service members' financial readiness correlates with mission readiness. To address this, analyses examined the unique associations among knowledge, financial readiness (evidenced by FWB scores), and mission readiness.

FWB and Financial Knowledge

In all four datasets, **Service members with more financial knowledge generally had higher FWB scores than those with less financial knowledge.** This association was noted for two different financial knowledge measures: the general financial knowledge measure (i.e., four of Lusardi's "Big 5") and the military-specific financial knowledge measure (e.g., understanding the blended retirement system [BRS]) (see **Figure 2.4**). For instance, on a scale from 0 to 4 in the 2020 SOFS-A dataset, the mean score for general financial knowledge was 2.77 for Service members above the median FWB, compared to 2.37 for those at or below the median, representing a 10% difference in knowledge scores between the two FWB groups. On a scale from 0 to 6 in the same dataset, military-specific financial knowledge also showed significant differences, with mean scores ranging from 3.45 to 3.57 for above-median FWB groups compared to 3.00 to 3.23 for below-median groups.

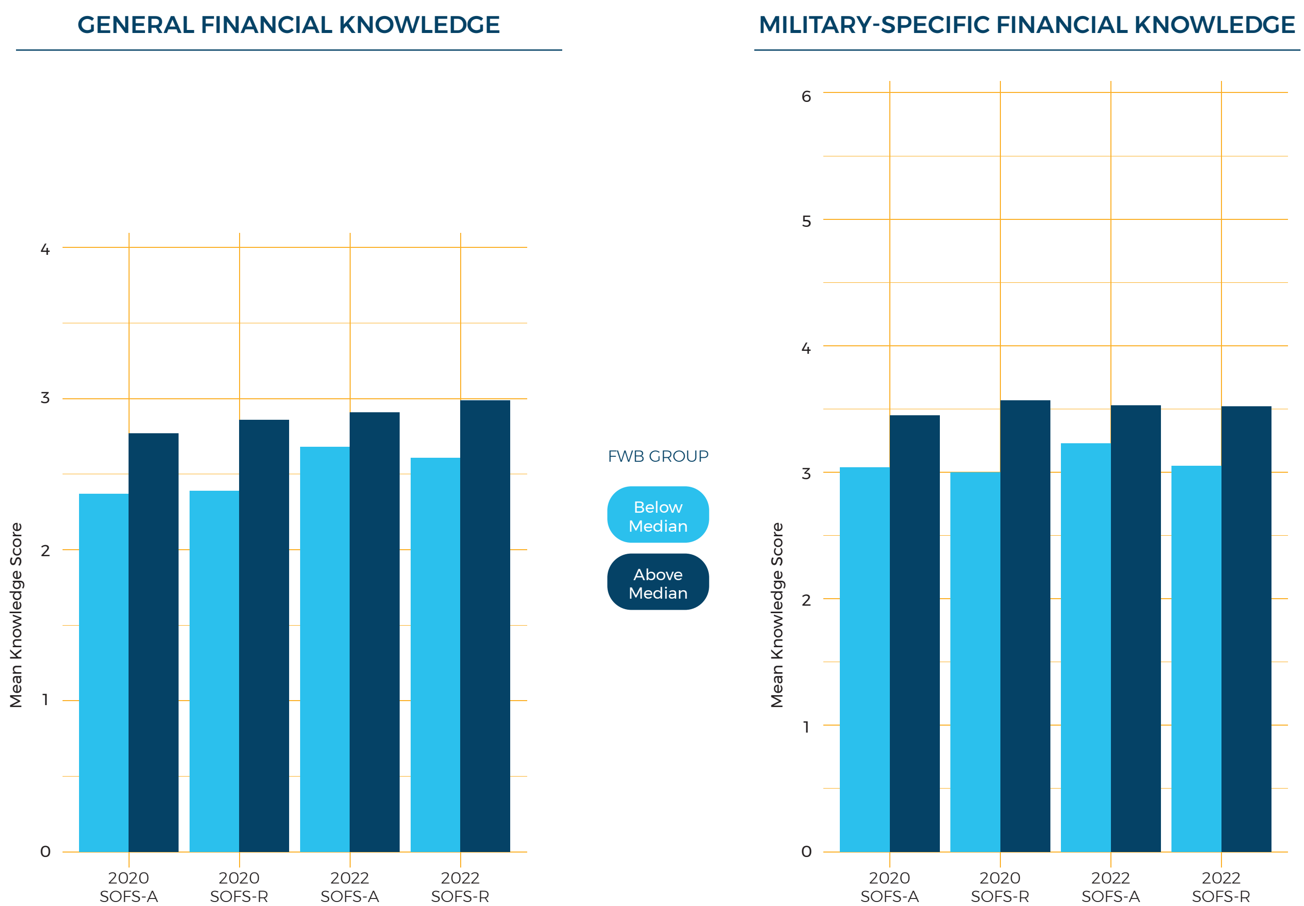


FIGURE 2.4.

FWB and Mission Readiness

Across the four datasets, **mission readiness outcomes were consistently more favorable among Service members with higher FWB scores than those with lower FWB scores,** reinforcing the integral role of financial readiness for Service member preparedness. More specifically, compared to those with lower FWB scores, those with higher FWB scores generally reported greater satisfaction (e.g., compensation and frequency of PCS moves), general health, unit cohesion, retention intent, and preparedness to perform wartime duties. For example, in the 2020 SOFS-A dataset, Service members with an FWB score above the median reported an average general health self-assessment score of 3.81 (scale 1–5), nearly 15.5% higher (or 0.51 points) than the average score of 3.30 reported by those below the median. Similarly, in the 2022 SOFS-R dataset, Service members with an FWB score above the median reported an average score of 3.71 (scale 1–5) for willingness to stay (retention intent), nearly 10.1% higher (or 0.34 points) than the average of 3.37 reported by those below the median. The difference in means was statistically significant for all mission readiness outcomes listed below (see **Figure 2.5**).

GREATER MISSION READINESS FOR 'ABOVE MEDIAN' GROUP BY DATASET

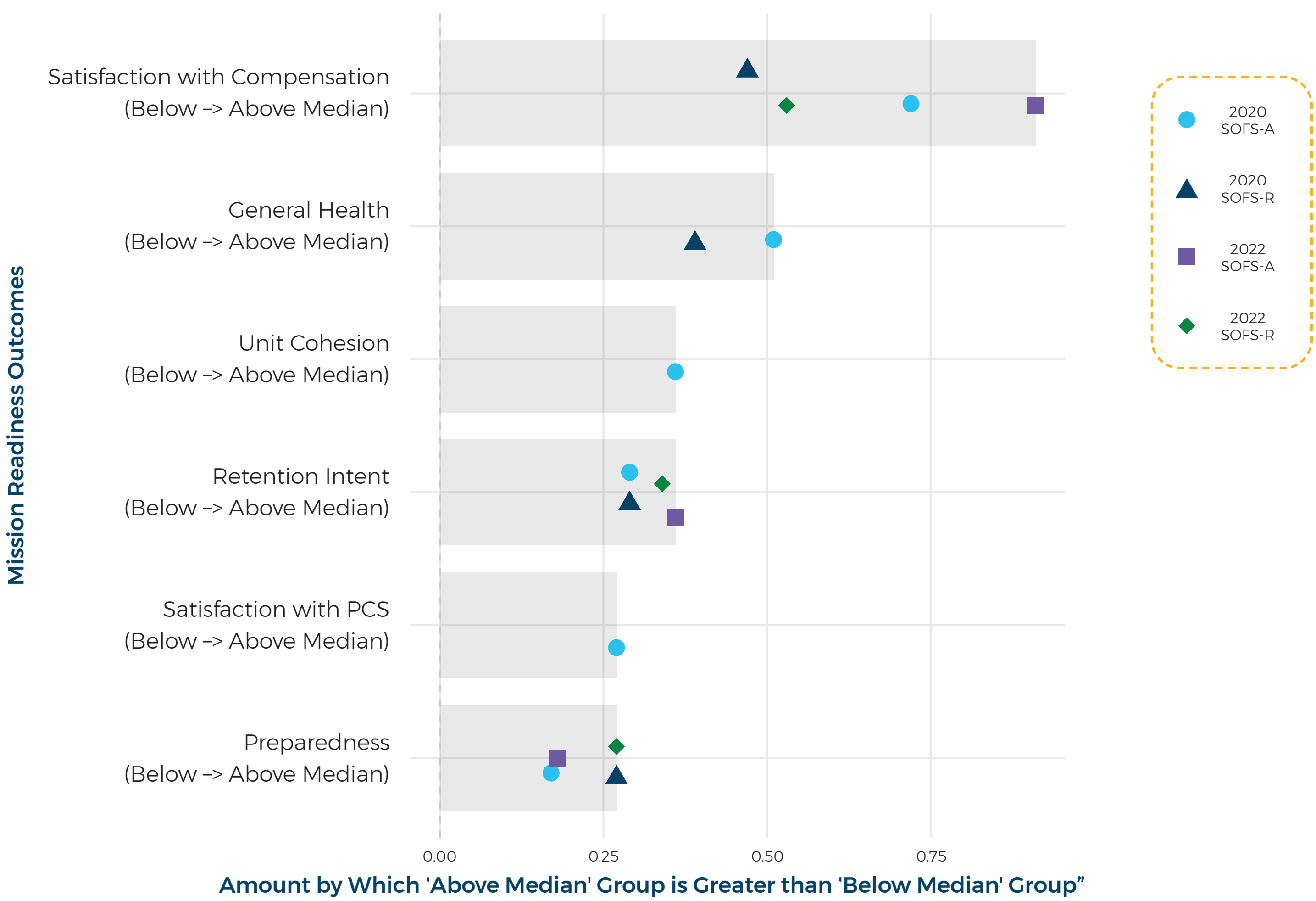


FIGURE 2.5.

Financial Readiness as a Strategic Imperative for Military Effectiveness

Together, these findings underscore that, beyond personal benefit to the Service member, financial readiness can support mission effectiveness and operational readiness.

An important caveat is that these associations do not definitively establish *causality*. The data were collected at a single timepoint and without randomizing individuals to conditions, meaning that other factors could potentially explain these associations.

Nevertheless, promoting financial readiness through targeted interventions—such as financial education, access to resources, and support in managing financial challenges—may offer a powerful way to enhance overall military preparedness and support mission success. These findings align with Phase 1 report conclusions, including the proposed logic model for the Department of Defense's financial literacy education and training efforts. A streamlined version is shown in **Figure 2.6.**

As shown, behavior is a primary mechanism through which financial knowledge is expected to lead to greater financial readiness. Accordingly, the following sections focus on which financial behaviors are most salient for and predictive of financial readiness.

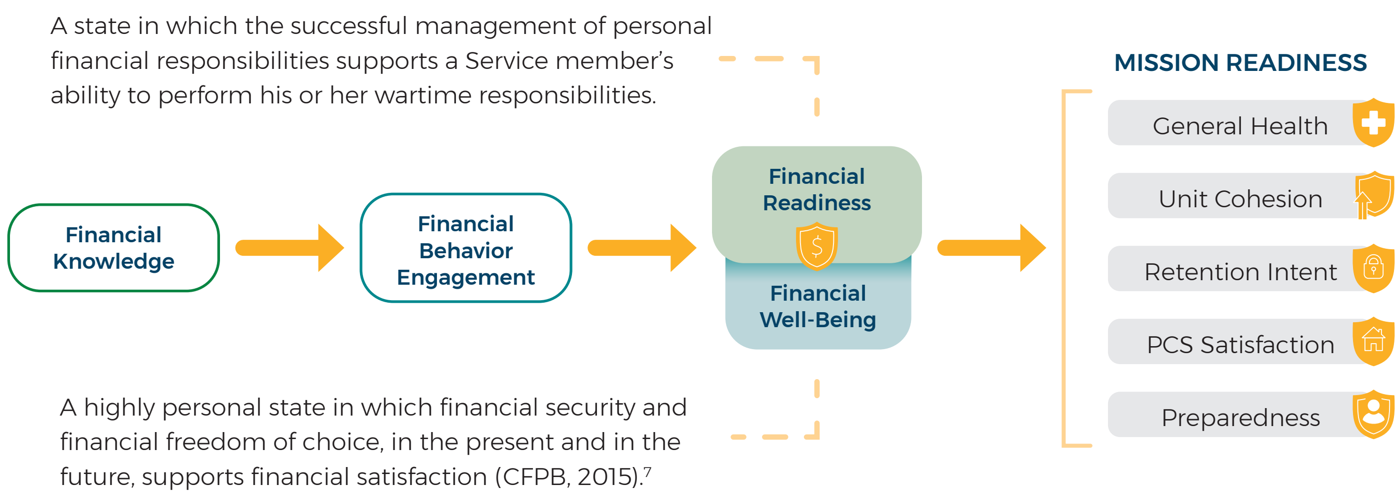


FIGURE 2.6.

SECTION 3

Regression Results

Given that research has not thoroughly addressed *which* specific financial behaviors are most impactful, particularly in specific contexts such as the military, multiple regression analyses were employed to examine the unique associations between specific behaviors and two key indicators of financial readiness: **financial well-being score (FWB)** and **financial condition (FC).**

These two outcomes provided complementary but distinct insights into financial readiness. Findings suggest that certain financial behavior measures align with both outcomes, whereas others align more closely with one outcome than the other. For example, behaviors such as maintaining an emergency fund and paying credit card balances in full showed strong associations with both FWB scores and FC, while others, such as reviewing LES statements, aligned more closely with only one outcome and/or a specific point in time. These nuances underscore the value of tracking both outcomes, as they provide insights into different dimensions of financial readiness and how a Service member's environment or temporal circumstances may influence financial perceptions.

[7] See CFPB, "Measuring Financial Well-Being," December 2015, https://files.consumerfinance.gov/f/201512_cfpb_financial-well-being-user-guide-scale.pdf.

Key Regression Findings

Table 2.3 provides an overview of the statistically significant associations between financial behaviors and financial readiness indicators, specifically highlighting those behaviors that contribute to FWB scores and/or FC. Financial behaviors associated with *higher* FWB scores and FC are visually depicted in green; behaviors associated with *lower* FWB scores and FC are visually depicted in orange.

Table 2.3. Regression Results	2020 FWB	2020 FC	2022 FWB	2022 FC
Credit Card Management (reference = Do not have credit cards)				
Paying credit card balance in full		(+) SOFS-R		(+) SOFS-R
Paying more than the minimum		(-) SOFS-A		
Paying minimum only	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R
Emergency Fund Savings (reference = Do not have emergency fund)				
Having less than 1 month of savings			(-) SOFS-R	
Between 1–3 months	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R
Between 3–6 months	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R
At least 6 months or more	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R
Saving versus Spending Habits (reference = Save or invest regularly by putting aside money each month)				
Save whatever is left over each month without a plan	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R
Unable to save, spend same as income	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R
Unable to save, spend more than income	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R
Financial Goals (reference = No, do not have goal)				
Have goal of saving for retirement	(+) SOFS-R		(+) SOFS-A	(+) SOFS-A
Met goal of saving for retirement			(+) SOFS-A	
Have goal of safety net	(-) SOFS-R			(-) SOFS-A
Met goal of safety net		(+) SOFS-A		(+) SOFS-R
Met goal of paying off education-related loans	(+) SOFS-R			(+) SOFS-R
Have goal of being debt free	(-) SOFS-A	(-) SOFS-A		(-) SOFS-A
Met goal of being debt free			(+) SOFS-A	
Have short-term plans				(-) SOFS-R
Have long-term plans	(+) SOFS-A (+) SOFS-R	(+) SOFS-A (+) SOFS-R		(-) SOFS-A (+) SOFS-R
Other Financial Behaviors (reference = No, do not have/engage in)				
Use of alternative financial services	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R
Contribute to savings		(+) SOFS-R	(-) SOFS-A	
Contribute to retirement	(-) SOFS-A		(-) SOFS-R	
Monitor credit score	(+) SOFS-R			
Use a budget or spending plan	(-) SOFS-A		(-) SOFS-A (-) SOFS-R	(-) SOFS-A (-) SOFS-R
Review leave and earning statement (LES)				(-) SOFS-A

Interpreting findings related to financial goals, in particular, requires nuance:

- **Simply having a financial goal is not sufficient.** The results indicate that, compared to those without a financial goal, having financial goals was occasionally linked to lower FWB scores. These associations were more pronounced for certain goals, including being debt free and having a safety net. From a practical perspective, these associations may reflect the financial struggles or aspirations of Service members who are actively working to address financial challenges, highlighting the reactive nature of these goals. Future research may shed more light on this finding.
- **Meeting a financial goal is likely a more useful metric for readiness.** Regression results, paired with an analysis of the distribution of behaviors by FWB category, suggest that meeting a financial goal is more strongly associated with higher FWB scores than merely having a goal.
- **These results have implications for Financial Readiness Programs.** The metric of having a financial goal could serve as a practical target for meeting Service members where they are, while having met a financial goal could serve as an indicator of readiness. Programs could support Service members in setting realistic, actionable goals and provide resources to help them achieve these goals, fostering a shift from reactive to proactive financial behaviors.

Magnitude of Associations

The magnitude of these associations in the regression analyses between financial behaviors and FWB scores provides valuable insights for prioritizing targeted interventions.

Figure 2.7 highlights the 12 behaviors with the greatest magnitudes of effect on FWB score. For example, from these data, if the only thing that might change for a Service member were switching from *not using* AFS to *using* AFS (AFS No -> Yes), their FWB score would be expected to decrease by 3.98 points (2020 SOFS-A).

Furthermore, because some of these behavior measures capture different levels of the same overarching behavior, the findings point to the level of these behaviors that may have the greatest impact on financial readiness.

12 LARGEST MARGINAL EFFECTS OF FINANCIAL BEHAVIORS ON FWB BY DATASET

FIGURE 2.7.

For instance, the saving versus spending habits measure captures degrees of saving relative to spending (e.g., saved with a plan, saved without a plan, spent the same as one's income, and spent more than one's income).

- **There was a notable difference in financial readiness between Service members who *saved with a plan* and those who *saved without a plan*.** This disparity underscores the importance of ensuring that Service members who currently save with a plan continue to do so and the merit of promoting saving with a plan for those who currently do not.
- **In contrast, very little difference was found when comparing the financial readiness of those who spent the same as income to those who spent more than income.** While both behaviors were associated with lower FWB, the difference in FWB score *between these two groups* was negligible compared to the difference between saving with a plan and saving without a plan.

Similarly, these findings indicate that the amount of emergency fund savings matters (see **Figure 2.8**):

- **3–6 months of expenses appears to be a critical level of emergency fund savings.** The greatest difference in FWB score was noted when comparing Service members with 1–3 months of emergency savings and those with 3–6 months of savings (see row 2 of **Figure 8**), suggesting that Service members with 3–6 months of savings experience substantially more financial benefit.
- **There are diminishing returns beyond 6 months.** The additional gains in FWB score for greater amounts of emergency savings appear to taper off for those with more than 6 months of savings for average expenses. Thus, while a larger emergency fund does continue to offer incremental benefits, the return on FWB is most pronounced up to the 3–6-month mark, with diminishing returns beyond 6 months of savings.
- **Simply having an emergency savings account is not sufficient.** The results indicate that, compared to those without an emergency fund, those with a bare minimum fund (e.g., less than 1 month of expenses) actually have slightly *lower* FWB scores. This difference may reflect individuals recognizing their financial vulnerability and taking intentional steps to improve their financial situation, such as establishing an emergency fund. Conversely, it could also be indicative of depleted emergency fund savings. Thus, while this measure potentially highlights the beginning of a corrective financial journey, it may equally be a sign of financial duress. Therefore, having an emergency with less than 1 month of expenses saved does not appear to be beneficial on its own.
- **These results have implications for Financial Readiness Programs.** These results suggest that 3–6 months of average expenses can serve as a practical target for Service members' emergency savings and, consequently, for military financial readiness programs. Programs can emphasize building emergency savings to this level as a tangible milestone with evidence-based benefits for FWB, ensuring a robust financial foundation without necessitating vast financial reserves that yield diminishing returns.

MARGINAL EFFECTS OF EMERGENCY FUND ON FINANCIAL WELL-BEING

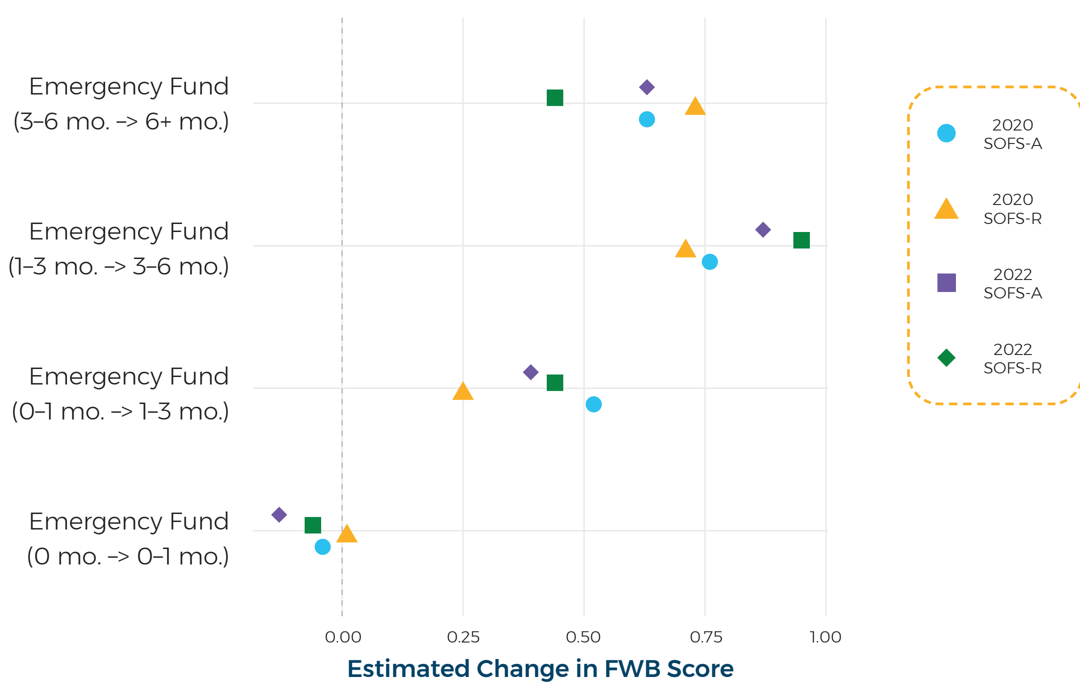


FIGURE 2.8.

Interpreting Counterintuitive Associations

While the directions of associations align with expectations for most of the behaviors examined, some counterintuitive associations emerged. For example, working to be debt free (as measured by having the goal of being debt free) was associated with lower FWB. Post hoc analyses were performed to better understand these results. These analyses supported the idea that engaging in certain financial behaviors (e.g., working to be debt free) may be negatively related to FWB because they reflect efforts to address current financial challenges.

The distribution of financial behaviors suggests that Service members in lower FWB categories (0–37) were *more* likely to set goals and take steps to manage their finances (see Table 2.4). Compared to Service members in higher FWB categories (58–100), those in lower FWB categories (0–37) were more likely to use a budget, to have a goal of being debt-free or saving for a safety net, and to have an emergency savings fund of less than 1 month of savings.

TABLE 2.4. HIGHEST RATE OF FINANCIAL BEHAVIOR ENGAGEMENT BY FWB CATEGORY

Proportion of Engagement for the Lowest vs Highest FWB Categories					
		0–29	30–37	58–67	68–100
Select Financial Behaviors	Use a budget	77.4%	85.6%	65.3%	70.7%
	Have goal to be debt free	93.1%	95.7%	79.2%	69.7%
	Have goal of safety net	92.0%	92.2%	84.3%	78.0%
	Emergency savings fund < 1 month	40.3%	39.8%	11.7%	4.8%

Importantly, these findings do not indicate that these behaviors are inherently "unhealthy." Instead, these behaviors likely reflect intentional efforts by financially vulnerable Service members to address financial challenges.

Therefore, the findings illustrate the need for targeted support to help Service members phase out of reactive strategies (e.g., creating goals to become debt free *after* facing financial challenges) to proactive strategies (e.g., building emergency fund savings with a plan).

SECTION 4

Analysis of Predictive Models Using Behavior Scores

To build on the exploration of the impact of specific behaviors, groupings (or composites) of the most salient behaviors were explored. The goal was to determine which grouping of behaviors is most predictive of Service members' FWB score and FC.

Composite Behavior Scores and FWB Categories

Given that analyses indicated that both healthy *and* unhealthy financial behaviors are uniquely related to financial readiness, composite behavior scores were derived to capture healthy and unhealthy financial behaviors in a single construct. This construct was specified in the predictive models as the percentage of healthy behaviors relative to the aggregate of financial behaviors. Separately for all four datasets, box-and-whisker plots were used to illustrate the relationship between these cumulative behavior scores and FWB categories. For illustration purposes, the plot for the 2022 SOFS-A dataset is shown below (see Figure 2.9).

Two important trends were consistently noted in all four datasets:

1. **Service members in higher FWB categories—such as 58–67 and 68–100—engaged in a higher percentage of healthy behaviors.** The median percentage of healthy behaviors is noted for each FWB category by the black horizontal line. This figure indicates that Service members' engagement in healthy financial behaviors consistently differentiated those in higher and lower financial well-being categories.
2. **There was more variability in healthy versus unhealthy behavior engagement for Service members in lower FWB categories than higher FWB categories.** Service members with high FWB scores were fairly homogenous in their financial behaviors (and almost all were engaging in the same healthy behaviors, such as saving regularly and managing credit responsibly). Conversely, Service members in lower FWB categories (e.g., 0–29 and 30–37) had lower median levels of healthy behavior engagement but also more variability overall in the ratio of healthy to unhealthy behaviors. This wider range suggests inconsistency in financial behavior engagement among individuals with lower financial well-being. While some were engaging in considerably healthier financial behaviors than others, almost all were generally engaging in fewer healthier behaviors than those at the highest levels of FWB.

Guide for Interpretation

The colored boxes (A) represent the middle 50% of the data for that specific FWB category. The black horizontal line in the center of the boxes (B) indicates the median value. The vertical lines extending above and below the colored bars (C) represent the remaining quartiles, showing the range of the top and bottom 25% of the data.

2022 SOFS–A PERCENTAGE (%) OF HEALTHY BEHAVIORS OUT OF TOTAL BEHAVIORS (POSITIVE AND NEGATIVE) BY FWB CATEGORY

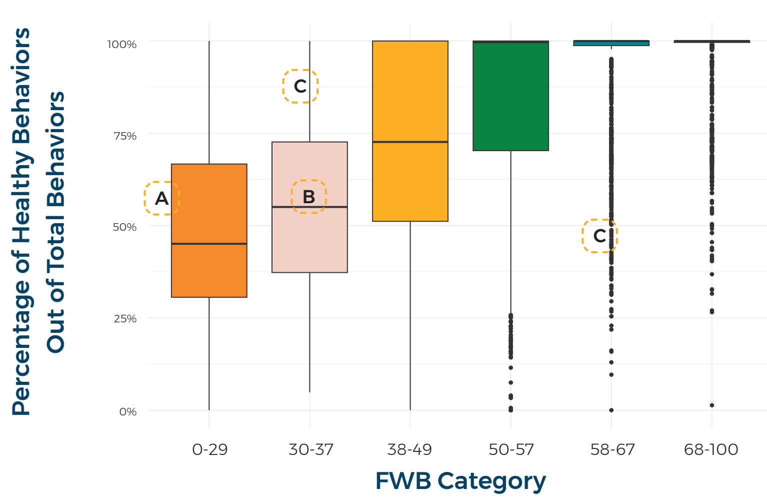


FIGURE 2.9.

These findings highlight the potential for using the percentage of healthy behavior engagement as a predictive tool for categorizing FWB levels and developing a targeted checklist of financial behaviors that can guide interventions aimed at improving financial readiness.

Effectiveness of Predictive Models Using Behavior Scores

The ability to effectively predict FWB categories from financial behavior scores was investigated. Among several model outcomes investigated, a binary FWB score outcome was identified as the most predictive and precise outcome. The overall model accuracy was 86% (see **Table 2.5**) and dichotomized Service members with an FWB score less than or greater than 50. As mentioned previously, a score below 50 is the threshold for increased financial vulnerability identified by the CFPB (see page 16).

Sensitivity and precision are metrics used to evaluate the efficacy of machine learning in predictive modeling, and the sensitivity and precision rates in the 2020 SOFS-A dataset reached 90.1% and 97.4%, respectively.[8]

These binary models may thus serve as a streamlined yet highly effective approach, generating a straightforward measure of financial readiness.

TABLE 2.5. PREDICTIVE MODEL ACCURACY BY DATASET

Outcome	2020 SOFS-A	2020 SOFS-R	2022 SOFS-A	2022 SOFS-R
Accuracy when predicting Service member financial readiness[9]	88.6%	90.6%	80.0%	84.0%

Notably, experiences of economic hardship, such as borrowing from family or friends, financial stress in personal relationships, and withdrawals from retirement funds, were considered in these predictive models as they are theoretically relevant to understanding financial context and greatly enhanced the statistical sensitivity and precision rates. In brief, much like the results in a previous section showing that financial behavior scores differentiated between FWB categories, economic hardship experiences also differentiated between FWB categories. For example:

- **Borrowing from Family or Friends:** Across the four datasets, almost half (44.17%) of Service members in the lowest FWB categories (0–29 and 30–37) reported borrowing money from family or friends to pay bills. This figure dropped substantially in the higher FWB categories, where only 2.34% of Service members reported similar borrowing behavior.
- **Personal Relationship Problems Due to Finances:** In the lowest FWB category (0–29), reports of financial strain impacting relationships were as high as 65.26%, compared to just 1.78% in the highest FWB category (68–100). This consistent trend suggests that relationship strain is a key indicator of financial stress.

The relatively high accuracy of the predictive models supports the development of a checklist from the included financial behaviors and indicators of economic hardship as a tool to assess Service members' financial readiness.[10] In addition to predicting readiness as an *outcome*, an added benefit is the tool's assessment of *malleable behaviors* that can be addressed through financial literacy education and training efforts.

[8] *Sensitivity* measures how well the model identifies individuals in a specific category, such as the 68–100 FWB category, rather than overlooking them as irrelevant data points. *Precision*, in contrast, measures how accurately the model assigns individuals to that category once they have been identified. In other words, sensitivity evaluates whether the model finds the relevant information, and precision assesses how accurately the model handles that information. Sensitivity and precision are not the same as overall model accuracy.
[9] The predictive model incorporated percentage of healthy behaviors plus four economic hardship experiences (borrowing money, withdrawing from retirement savings, overdrafts, and personal relationship problems).
[10] A variety of predictive modeling techniques, including decision trees, random forests, neural networks, and support vector machines, were employed alongside oversampling and undersampling approaches to ensure robustness and consistency in results. This comprehensive approach confirmed that the findings were not method-dependent and remained robust across multiple analytical perspectives.

Practical Scoring Guide Checklist

The sample scoring checklist in **Figure 2.10** highlights **seven key indicators for monitoring financial readiness** in the predictive models. These questions and the corresponding values were selected based on their demonstrated salience and contribution to financial readiness, as identified in the analyses described earlier (see **Appendix 2.B** for complete questionnaire and corresponding values). The figure illustrates how two different Service members may complete the checklist, the scores they would receive, and what can be concluded from their scores.

Because the intent is to "predict" a Service member's financial readiness, the summed scores from the seven questions indicate the level of *confidence* in financial readiness rather than a firm, definitive assessment that they *are* financially ready. The idea is that a quick, broadly deployable tool, such as this checklist, can be a first step to identifying Service members who are less likely to be financially ready and thus more likely to require detailed assessment and assistance.

7-QUESTION FINANCIAL READINESS SPOTCHECK

Service Member A

1. Which of the following options best describes how you routinely pay credit card debt?

0 ✓ Pay credit card balance in full each month.

2. How much do you have in an emergency fund, in terms of your average monthly expenses?

1 ✓ Between 3 and 6 months.

3. Which of the following statements best describes your saving or investment habits?

0 ✓ Save or invest regularly by putting money aside each month.

4. In the past 12 months, have you used any of the following financial products or services to cover routine expenses?

0 ✓ No.

5. In the past 12 months, did any of the following happen to you?

0.75 ✓ Provided unplanned financial support to a family member who did not live with me.

6. Please indicate whether the following are financial goals for you:

0 ✓ Met (being debt free).

1.5 ✓ Yes (Saving for retirement)

0 ✓ Met (Saving for a safety net/emergency fund)

7. Overall, how would you rate the current level of stress in your personal life?

3 ✓ About the same as usual.

6.25 Total Points

Service Member B

1. Which of the following options best describes how you routinely pay credit card debt?

1 ✓ Pay only the minimum.

2. How much do you have in an emergency fund, in terms of your average monthly expenses?

1.5 ✓ Between 1 and 3 months.

3. Which of the following statements best describes your saving or investment habits?

2.25 ✓ Save or invest whatever is left over at the end of the month – no regular plan.

4. In the past 12 months, have you used any of the following financial products or services to cover routine expenses?

2 ✓ Yes (payday loan).

5. In the past 12 months, did any of the following happen to you?

1 ✓ Borrowed money from family and/or friends to pay bills.

6.5 ✓ Had personal relationship problems with partner due to finances.

6. Please indicate whether the following are financial goals for you:

1 ✓ Yes (being debt free).

1..5 ✓ No (Saving for retirement)

7. Overall, how would you rate the current level of stress in your personal life?

4.5 ✓ More than usual.

21.25 Total Points

Confidence in Financial Readiness

1–10	11–15	16–31.25
High Confidence		Needs More Assessment

FIGURE 2.10.

The scoring checklist demonstrates three important caveats:

- **A perfect score is not required for financial readiness.** Of all the Service members who scored between 1–10 points, 95% were categorized as financially ready with a high degree of confidence, demonstrating that financial readiness is achievable without perfection.
- **Fifteen points is a critical threshold.** Fifteen marks a tipping point where the confidence in a Service member's financial readiness drops to approximately 50%.
- **The checklist is intentionally simplistic in addressing the complex interplay of factors.** For simplicity, the checklist evaluates behaviors individually, prioritizing ease of use for stakeholders and practitioners. This is appropriate for its purpose, but it is notable that some items included—like experiencing personal relationship problems due to finances and personal stress—may have bidirectional relationships. That is, personal stress from financial vulnerability may cause relationship problems, or relationship problems may cause financial vulnerability and personal stress. Nonetheless, the two are often comorbid, hence their inclusion in the checklist.

Considering these caveats, the checklist remains a highly practical and actionable tool for monitoring and improving financial readiness. If integrated in routine assessments, stakeholders and practitioners can quickly identify Service members who are less likely to be financially ready, with downstream implications for Service members' mission readiness. The checklist also provides a focused, actionable tool by pinpointing specific financial behaviors and areas of concern requiring attention. While not exhaustive, its simplicity and clarity offer leaders a straightforward framework for assessing financial readiness and addressing potential stressors within their units.

Consistent with best practices, this proactive approach offers timely and individualized feedback and, with continued refinement, this checklist has the potential to serve as a foundational tool for promoting financial readiness across the Force.

SOFS Addendum

Purpose: (1) To assess the Status of Forces Survey (SOFS)'s *financial condition* question and the Consumer Financial Protection Bureau (CFPB)'s *financial well-being score* as compatible indicators of financial readiness. (2) To investigate whether a reduced version of the proposed financial readiness checklist can effectively distinguish financially ready Service members.

Data Examined: Data from the 2020 SOFS-A were analyzed due to the breadth of available data (some variables of interest, such as mission readiness outcomes, were not available in Reserve or 2022 SOFS data).

PURPOSE #1

First, two of the financial readiness indicators available in the SOFS are described in detail. Then, responding Service members are compared across these two indicators.

Financial Condition Question

The financial condition question asks "Which of the following best describes you (and/or your spouse's) financial condition?" Service members select one of 5 comfort levels:

- "In over your head,"
- "Tough to make ends meet but keeping your head above water,"
- "Occasionally have some difficulty making ends meet,"
- "Able to make ends meet without much difficulty," and
- "Very comfortable and secure."

For analytic purposes, the first two comfort levels ("In over your head" and "Tough to make ends meet but keeping your head above water") were combined due to the small number of Service members who selected these levels. Short titles were generated for the resulting four levels, indicating Service members who were financially "Not comfortable," "Occasionally comfortable," "Comfortable," and "Very comfortable."

A benefit of this financial readiness indicator is the use of a single item to capture qualitatively meaningful categories of financial condition, which facilitates interpretation. For instance, it might be intuitive to report that a certain percentage of Service members are "in over their head" financially.

Financial Well-Being Score

The wording of the items comprising the CFPB's five-item financial well-being scale are:

- "Because of my money situation, I feel like I will never have the things I want in life."
- "I am just getting by financially."
- "My finances control my life."
- "I am concerned that the money I have or will save won't last."
- "I have money left over at the end of the month."

Scale responses for the first three statements range from "Does not describe me at all" to "Describes me completely." Scale responses for the fourth and fifth statements range from "Never" to "Always." Following the CFPB's scoring instructions for these 5 items, scores were computed on a continuous scale ranging from 0–100.

A benefit of this financial readiness indicator is the more granular assessment supported by the wide score range (0–100), which can capture more subtle variations than categorical variables, such as the financial condition levels.

Assessing the Compatibility of the Financial Condition Question and Financial Well-Being Score

The analysis investigated the extent to which these two financial readiness indicators provide similar insight into Service members' financial readiness.

First, because one indicator is a categorical metric and the other is a continuous metric, groups, or categories, of financial well-being scores were created to facilitate an analogous comparison. Four financial well-being groups were created to contain similar proportions of Service members that reported each comfort level of financial condition. For example, 38.6% of all respondents were classified as "Very comfortable" in the dataset, so the analysis aimed to create a group with the highest 38.6% of financial well-being scores. This group included Service members with financial well-being scores from 69–100 (see Table 2.6). Note that, given the score distribution, it was not possible to perfectly match group sizes.

TABLE 2.6 COMPARISON OF FINANCIAL CONDITION AND FINANCIAL WELL-BEING SCORE GROUPS

	Financial Condition				Analogous Financial Well-Being Score Ranges			
Group	Not comfortable	Occasionally comfortable	Comfortable	Very comfortable	0–41	42–50	51–68	69–100
Count	630	1,772	5,336	4,873	694	1,641	5,661	4,071
%	5.00%	14.10%	42.30%	38.60%	5.75%	13.60%	46.90%	33.70%

Second, Service member distribution analyses indicated that, although the two indicators mostly captured the same individuals, there was not perfect alignment (see Figure 2.11). For instance, both "Not comfortable" and "Financial well-being scores between 0–41" represent categories indicating the lowest levels of financial readiness for their respective measures. There was some alignment in these two groups, as 54.5% of Service members who reported "Not comfortable" also had a financial well-being score in the lowest range (0–41). However, 12.3% of those reporting “Not comfortable” had a financial well-being score in the second-highest range (51–68). Qualitative data focusing on how Service members interpret the wording of the two measures could help explain these differences by shedding light on what the items mean to them and their thought processes in selecting their responses.

THE PERCENTAGE OF SERVICE MEMBERS BY FINANCIAL CONDITION AND FINANCIAL WELL-BEING SCORES

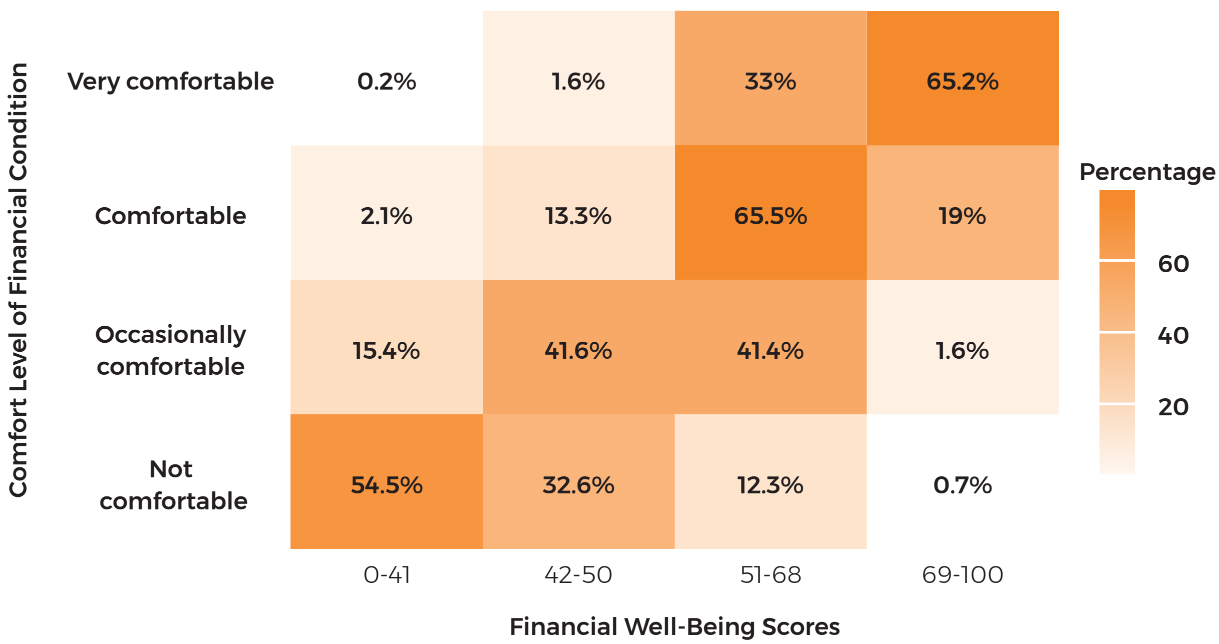


FIGURE 2.11.

Note: Percentages are row-wise and represent the proportion of Service members who reported the associated financial condition and financial well-being score at the same time.

Third, group differences among financial behavior engagement and mean scores for mission readiness outcomes were examined. Overall, both financial readiness indicators displayed a positive trend where those who were more financially ready generally reported greater engagement in healthy financial behaviors and higher mission readiness outcome scores than those who were less financially ready.

As two examples, bar charts are shown in **Figure 2.12** for saving money with a plan (a financial behavior) and unit cohesion (an indicator of mission readiness).

- Saving money with a plan was a behavior performed by a small percentage of Service members in categories reflecting less financial readiness but a large percentage of Service members in categories reflecting more financial readiness.
    - However, there were some marginal deviations between financial well-being groups at the higher end, likely due to financial well-being scores that were borderline between two groups. This is a relatively common artifact of categorizing continuous variables as it obscures nuance and hence increases measurement error.
- Mean scores for unit cohesion were notably comparable by indicator group, and unit cohesion was slightly higher for groups with greater financial readiness compared to groups with less financial readiness.

COMPARISON OF SAVE MONEY WITH A PLAN BY INDICATOR GROUP

COMPARISON OF UNIT COHESION (COHESION SCALE 1–5) BY INDICATOR GROUP

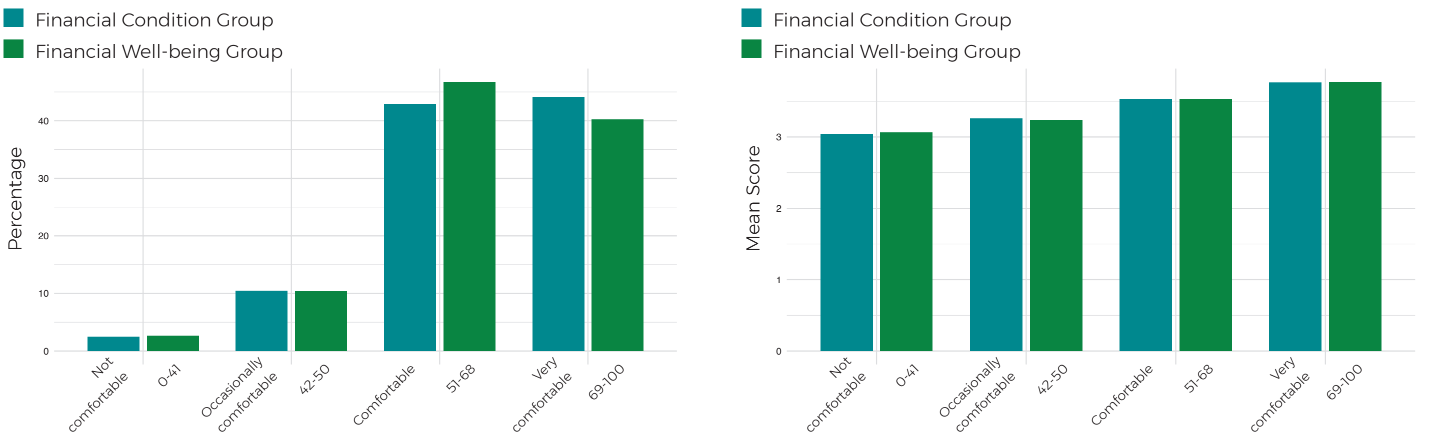


FIGURE 2.12.

Together, the evidence indicates that, while not exactly the same, the two outcomes overlap considerably and are appropriate indicators of financial readiness. Notably, there are times when one measure may be preferred over the other, particularly when prioritizing qualitative convenience (e.g., "very comfortable") or aiming to detect more subtle shifts (e.g., a continuous 0–100 measure).

PURPOSE #2

Conceptualization of the Checklist for Predicting Financial Readiness

Recall that results summarized in the previous section of this chapter indicated the potential for "predicting" Service members' financial readiness based on their responses to the following seven behavior-oriented questions (**concept bolded**). In this analysis, financial readiness was operationalized as financial well-being scores of 50 or higher based on research indicating that respondents with scores under 50 are more likely to struggle financially.[8]

1. **Credit Cards:** Which of the following options best describes how you routinely pay credit card debt?
2. **Emergency Fund:** How much do you (and your partner, if applicable) have in an emergency fund, in terms of your average monthly expenses?
3. **Spending:** Which of the following statements best describes your (and your partner's, if applicable) saving or investment habits?
4. **Alternative Financial Service (AFS) Use:** In the past 12 months, have you (and your partner, if applicable) used any of the following financial products or services to cover routine expenses? Mark "Yes" or "No" for each item.
5. **4 Selected Hardships:** In the past 12 months, did any of the following happen to you (and/or your partner?) Mark "Yes" or "No" for each item.
6. **3 Selected Goals:** Please indicate whether the following are financial goals for you (and your partner, if applicable). If a goal does not apply to you, please select "No, this is not a goal for me/us." Mark one answer for each item.
7. **Personal Stress:** Overall, how would you rate the current level of stress in your personal life?

While the checklist contains only seven questions, it also captures a large number of possible financial behavior patterns. For example, there are a total of 57,600 possible combinations of responses to the seven questions (4 x 5 x 4 x 2 x 8 x 9 x 5 possibilities).

[8] See CFPB, "Financial Well-Being in America," September 2017, https://files.consumerfinance.gov/f/documents/201709_cfpb_financial-well-being-in-America.pdf.

Ultimately, analyses indicated that many of these combinations, reflecting distinct behavior patterns, could result in financial readiness. That is, financial readiness is not as prescriptive as "Service members *must* do these behaviors and *must not* do these other behaviors." Rather, financial readiness is based on the combination of multiple behaviors, each of which exerts impact relative to the others.

Recall that, given this variation, a point system, or score, was introduced to simplify results, draw comparisons, and ease interpretation of findings. Total possible checklist scores range from 0–31.25. 90% of Service members with a score of 10 or less were accurately predicted as being "financially ready"—operationalized by having a financial well-being score of 50 or higher. This 10-point window accounts for the differences that can exist in behaviors even among those demonstrating financial readiness.

Investigating Behavior Combinations for Predicting Financial Readiness

While the seven-item checklist is already a relatively simple and streamlined tool, to extend this work, analyses were conducted to determine whether certain items were largely driving the checklist's predictions of financial readiness, in which case the checklist could be further pared down without compromising the tool's sensitivity or precision.

Common behavior "clusters" across the levels of financial condition were investigated as one approach to checklist reduction (see the top part of **Figure 2.13**). For example, 98% of those who were "Very comfortable" and 92% of those who were "Comfortable" reported saving money, either with or without a plan. These findings might suggest that saving money is a high-priority item that could identify financially ready Service members. However, 71% of Service members who were "Occasionally comfortable" and almost half (43%) of Service members in the "Not comfortable" group also reported saving money, either with or without a plan. Hence, this item alone lacks sensitivity in distinguishing between Service members who are and are not "financially ready."

MOST ENGAGED IN BEHAVIOR *CLUSTERS* BY FINANCIAL CONDITION
(2020 SOFS-A)

Not Comfortable	Occasionally Comfortable	Comfortable	Very Comfortable
Save (with or w/o plan): 43%	Save (with or w/o plan): 71%	Save (with or w/o plan): 92%	Save (with or w/o plan): 98%
Save (with or w/o plan) + Emergency Fund of 1–6+ mo + Pay More than Min. Credit Card + Contribute to Savings + Contribute to Retirement: 12%	Save (with or w/o plan) + Emergency Fund of 1–6+ mo + Pay More than Min. Credit Card + Contribute to Savings + Contribute to Retirement: 30%	Save (with or w/o plan) + Emergency Fund of 1–6+ mo + Pay More than Min. Credit Card + Contribute to Savings + Contribute to Retirement: 50%	Save (with or w/o plan) + Emergency Fund of 1–6+ mo + Pay More than Min. Credit Card + Contribute to Savings + Contribute to Retirement: 65%

FIGURE 2.13.

As another reduction approach, analyses were implemented to identify some combination of behaviors utilized by at least 50% or more of Service members who were "Comfortable" or "Very Comfortable." From the seven items on the checklist, behavior clusters that meet this criterion include (a) saving money with or without a plan, (b) having an emergency fund between 1–6+ months of savings, (c) paying credit cards either in full or at least more than the minimum, (d) contributing to savings, and (e) contributing to retirement (see the bottom part of **Figure 2.13**). In other words, knowing these behaviors only enables the identification of half (50%) of Service members who are "financially ready."

To demonstrate the need to balance sensitivity, precision, and accuracy, a predictive model was analyzed with the following four behaviors:[9]

- Spending more than income,
- Not having an emergency fund,
- Not paying credit cards in full, and
- Using AFS.

Results indicated that the predictive model:

- Was moderately precise. Precision refers to how many of those predicted to be "not ready" were, indeed, "not ready" (operationalized as a financial well-being score below 50)—in this case, 66% predicted to be "not ready," did, indeed, have a score below 50.
- Lacked sensitivity. Sensitivity refers to the model's ability to identify *all* of the Service members who were "not ready." The model identified just 14% of the "not financially ready" Service members.
- Had acceptable overall accuracy. Because so many "ready" Service members were correctly identified, the overall accuracy was high (83%) even though the ability to distinguish "not ready" Service members was low.

Together, these findings illustrate an important distinction when defining what constitutes a successful predictive model (and, consequently, a successful checklist). This reduced model was effective at identifying who was financially ready, but was *highly ineffective* in identifying who was "not ready," as 86% of Service members in this group went undetected.

While further refinement of the checklist is advised, preliminary results indicate that the items account for a multitude of possible behavior combinations that contribute to financial readiness, thus supporting the use of the seven-item checklist in its entirety. Additionally, the value of all seven checklist items is enhanced by their cumulative ability to accurately predict confidence in Service members' financial readiness. Attempts to further reduce the number of items demonstrated a significant reduction in the instrument's sensitivity and precision. Overall, findings suggest that the checklist may be useful as a deployable tool to predict financial readiness.

[9] These specific behaviors were selected for several reasons, including their alignment with previous research noting salient financial behaviors for downstream outcomes and their consistent statistically significant associations with financial readiness outcomes across the three datasets examined in this report.

Insights from the National Financial Capability Study

Purpose: To investigate the salience and impact of specific financial behaviors on indicators of financial readiness in a sample of military and civilian respondents, as well as to validate the development of a practical checklist and scoring guide to distinguish financially ready individuals.

Data Examined: Data from the 2018 and 2021 National Financial Capability Study (NFCS) were combined and analyzed.[1] The sample size included 46,248 civilians and 1,305 Service members. Veterans were excluded from analysis. The inclusion of survey weights in the analyses allow the results to be generalized to the broader public (i.e., nationally representative).

Financial Behaviors (Explanatory Variables): The primary financial behaviors examined in this investigation were credit card payment behavior, maintaining an emergency fund, spending habits, using alternative financial services (AFS), and maintaining a retirement account.

Indicators of Financial Readiness (Outcome Varibles): As indicators of financial readiness, the primary analytic outcomes were respondents' financial well-being score (FWB), financial satisfaction, and financial anxiety.[2]

Contextual Considerations: As control variables, regression analyses accounted for additional factors that may have implications for financial readiness, such as year, receipt of stimulus payment, gender, age, highest educational attainment, marital status, having financial dependents, employment status, having a savings account, financial knowledge, household income, experiencing a financial shock (e.g., sudden drop in income), confidence in covering an unexpected expense of $2,000, having student loans, having health insurance, difficulty paying bills, and income volatility. These factors were selected based on existing research and availability in the NFCS dataset.

Analytic Summary: Subgroup analyses and multiple regression models were utilized to assess how each individual financial behavior contributed to variations in respondents' financial readiness. This approach was conducted separately for civilians and Service members. Additionally, predictive modeling was used to conceptually validate a financial readiness checklist and scoring guide originally developed from Status of Forces Surveys (SOFS) data. *Note*: Although wording and assessment varied slightly between them, SOFS and NFCS measured similar behavioral constructs.

Results: Civilians generally reported higher *FWB scores* than Service members, yet Service members generally reported greater *financial satisfaction* than civilians. Service members also tended to report greater *financial anxiety* than civilians. The results revealed a strong association among some financial behaviors and financial readiness indicators for both civilians and Service members. Unexpectedly, a few financial behaviors were only related to financial readiness for civilians (e.g., paying credit card balances in full), and a few counterintuitive associations emerged between financial behaviors and financial readiness for Service members (e.g., using alternative financial services [AFS] was linked to greater financial satisfaction). Supplemental analysis suggested that the counterintuitive associations were related to the discrepancy between perceived financial knowledge and objective financial knowledge for the military subset. An adapted version of the practical checklist developed from analyses of the SOFS data effectively distinguished financially ready individuals from those needing further assessment and monitoring, providing evidence of the checklist's validity and reliability.

See Appendix 3.A for detailed information on the measures.

[1] The 2018 and 2021 NFCS waves were combined to maximize the sample size of Service members. Year was included as a control variable, and product terms were used in analyses to account for potential differences by year.
[2] FWB score calculated from the Consumer Financial Protection Bureau (CFPB)'s FWB scale.

Key Findings

1. Comparison of Civilians and Service Members

- Key Descriptive Statistics: Civilians and Service members differed in several demographic characteristics. Overall, the military subset was younger and included more men than the civilian subset. Unexpectedly, Service members reported higher income and more financial assets, on average, than civilians. Counterintuitive associations were found between the financial readiness indicators for Service members. In general, Service members with greater financial satisfaction tended to have less FWB and greater financial anxiety than those with less financial satisfaction.

2. Regression Results

- Key Findings: The relationships between financial behaviors and financial readiness indicators differed considerably between civilians and Service members, with a greater number of statistically significant associations for civilians and more nonsignificant associations for Service members. Civilian results generally aligned with Phase 1 findings from extant research as well as insights from analyses with the Survey of Household Economics and Decisionmaking (SHED) and SOFS datasets. Analyses of Service members produced some counterintuitive results. For instance, AFS use was associated with less FWB for Service members, as expected, but it was also associated with greater financial satisfaction. Significant associations among financial behaviors and financial readiness indicators for Service members were lacking, which was explored in more detail in Section 3 of this chapter.

3. Examination of Counterintuitive Findings

- Supplemental Findings: The unexpected demographic characteristics, correlations, and regression results prompted a closer look at the financial readiness indicators. Analyses suggested that FWB and financial satisfaction appear to be distinct constructs, whereas FWB and financial anxiety align more closely. FWB (a multi-item scale) appeared to measure primarily cash flow challenges and related financial stressors. Financial satisfaction (a single item) appeared to measure contentment with current assets and condition. Financial anxiety (a single item) measured general financial concern, highlighting some similarity to FWB. Additionally, "knowledge discrepancy" was identified as the difference between what a respondent thought they knew about finances and what they actually knew. Service members with greater knowledge discrepancy tended to report greater financial satisfaction but also greater financial anxiety and less FWB compared to those with less knowledge discrepancy.

4. Validation of Practical Checklist and Scoring Guide

- Key Practical Checklist Findings: The practical checklist to monitor and assess financial readiness (developed previously with SOFS data) was validated with the NFCS data. Like the SOFS checklist, an NFCS checklist score below 10 points effectively distinguished the likelihood that a respondent was financially "ready" with 90% accuracy. A checklist score above 10 points emerged as the recommended threshold for identifying respondents in need of additional assessment and potential intervention for financial readiness.

SECTION 1

Comparison of Civilians and Service Members

The NFCS datasets include a military identifier that was used to distinguish between civilian respondents who were “never a member” and those who were “currently a member” of “the U.S. Armed Services.” Due to the low number of Service members in each wave, the 2018 and 2021 NFCS datasets were combined to strengthen statistical power. The summary statistics below reflect results from the combined datasets.

Demographic Characteristics

A nationally representative comparison between the civilian and military subsets highlights demographic differences between the two groups. For instance, in the civilian subset, 55 years or older (39.8%) was the most common age category, sex was fairly evenly distributed (43.2% male), and approximately one-third (33.7%) of respondents had financial dependents (see **Figures 3.1** and **3.2**). Conversely, the military subset was generally far younger (50.1% aged 25–34), primarily male (77.1%), and most had financial dependents (72.2%).

NATIONALLY REPRESENTATIVE AGE GROUP PROPORTIONS FOR CIVILIANS AND MILITARY

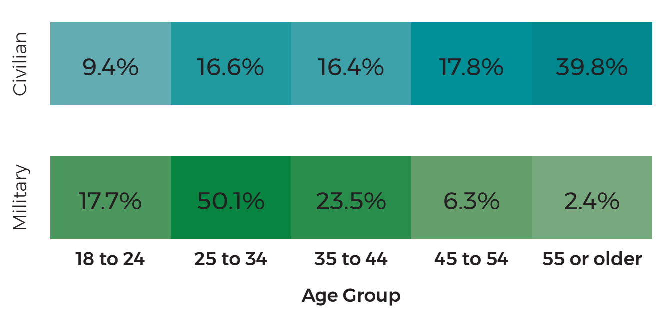


FIGURE 3.1.

SEX, MARITAL STATUS, AND DEPENDENTS BY GROUP

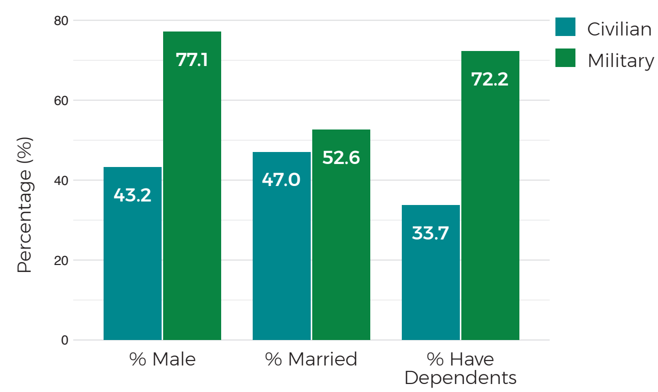


FIGURE 3.2.

DISTRIBUTION OF HIGHEST EDUCATION BY GROUP

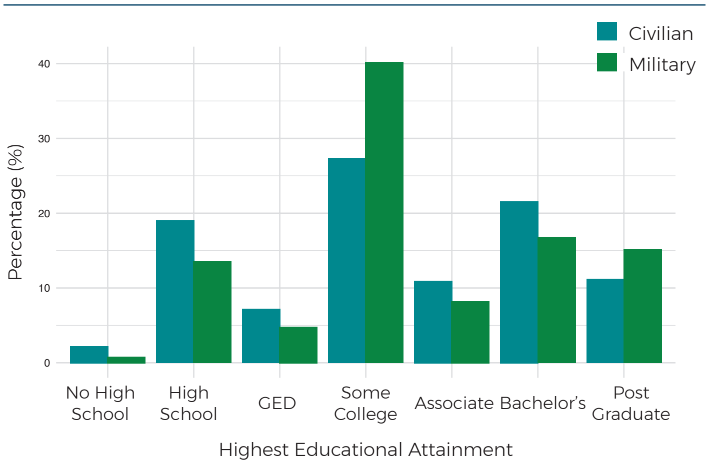


FIGURE 3.3.

DISTRIBUTION OF HOUSEHOLD INCOME BY GROUP

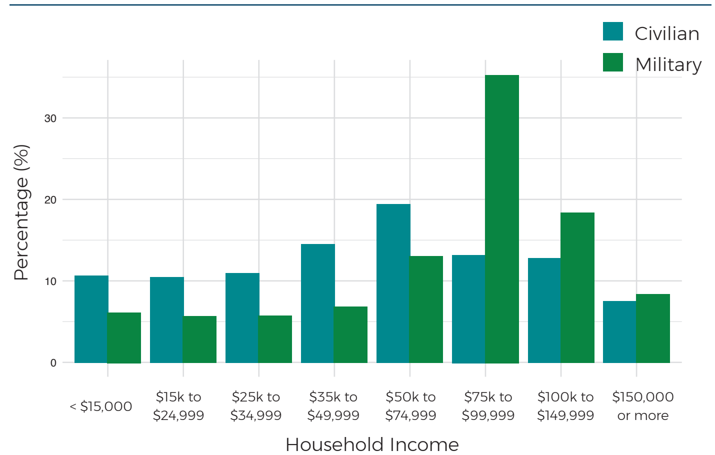


FIGURE 3.4.

Regarding educational attainment (see Figure 3.3), more civilians than Service members had an associate or bachelor's degree as their highest level of education. Nevertheless, more Service members had "some college" education or a postgraduate degree. Service members, overall, reported higher household income than civilians (see Figure 3.4).

Examination of Financial Readiness Indicators

Three indicators of financial readiness were examined (see Figure 3.5): FWB score, financial satisfaction, and financial anxiety. The differences in mean scores between the civilian and Service member groups were statistically significant for each financial readiness indicator examined.

The military subset had a lower overall mean FWB score (47.0) than the civilian subset (51.9). This difference reflects an average FWB score for civilian respondents that was 10.5% higher than the average score for Service member respondents.

COMPARISON OF FINANCIAL WELL–BEING, SATISFACTION, AND ANXIETY BY GROUP

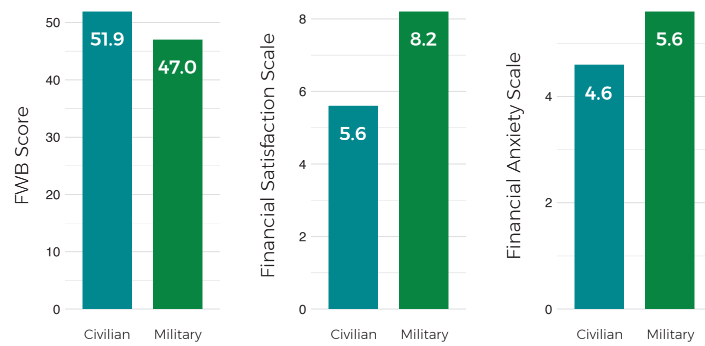


FIGURE 3.5.

The military subset generally reported greater financial satisfaction than civilians. Specifically, on a single item ranging from 1–10 assessing satisfaction with assets, savings, and debt, the mean score for Service members was 8.2 compared to 5.6 for civilians. In other words, Service members' financial satisfaction score was typically 44.9% higher than that of civilian respondents.

The military subset typically reported greater financial anxiety than civilians. On a single item ranging from 1–7 assessesing anxiety from thinking about one's finances, the mean score for Service members was 5.6 compared to 4.6 for civilians. Thus, Service members typically averaged 21.5% greater financial anxiety than civilian respondents.

Examination of Correlations

Associations between the financial readiness indicators were examined separately for civilian and military subsets (see **Table 3.1**).[3] Although all correlations were statistically significant, some were not in the expected direction for Service members. More detail is provided below.

TABLE 3.1. FINANCIAL INDICATOR CORRELATIONS BY GROUP

	Civilian (r)	Military (r)
FWB Score and Financial Satisfaction	.67	-.33
FWB Score and Financial Anxiety	-.69	-.51
Financial Satisfaction and Financial Anxiety	-.50	.53

- **FWB Score and Financial Satisfaction**
  - i. For civilians, a strong *positive* correlation existed between FWB and financial satisfaction (*r* = .67), indicating that those reporting greater FWB were generally financially satisfied.
  - ii. For Service members, FWB and financial satisfaction displayed an unanticipated *negative* relationship (*r* = -.33). That is, those reporting *less FWB* generally reported *greater financial satisfaction*.

- **FWB Score and Financial Anxiety**
  - i. For both civilians and Service members, those with greater FWB experienced less financial anxiety than those with less FWB. The observed correlation value was -.69 for civilians and -.51 for Service members, indicating a fairly similar strength of effect.

- **Financial Satisfaction and Financial Anxiety**
  - i. For civilians, a *negative* association was anticipated and observed. Civilians with greater financial satisfaction typically reported less financial anxiety than those with less financial satisfaction (*r* = -.50).
  - ii. For Service members, an unanticipated *positive* association was identified. Service members with greater financial satisfaction also reported greater financial anxiety than those with less financial satisfaction (*r* = .53).

In summary, these correlations demonstrated some counterintuitive associations for the financial satisfaction measure in the military subset. In general, Service members with greater financial satisfaction tended to have less FWB and greater financial anxiety, necessitating further investigation (see Section 3 of this chapter).

[3] Correlations indicate the *direction* and *strength* of the relationship between two variables and can range from -1 to 1. Negative correlations indicate trends away from each other (higher values of one variable are generally seen with lower values of the other variable), whereas positive correlations indicate trends in the same direction (higher values of one variable are generally seen with higher values of the other variable). Values close to 0 suggest no association, whereas values closer to -1 or 1 indicate stronger associations. Common benchmarks for interpreting correlations are absolute values of .10 (weak association), .30 (moderate association), and .50 (strong association). However, even small correlations can be meaningful.

SECTION 2
Regression Results

Multiple regression analyses were employed to investigate the unique associations between specific financial behaviors and three indicators of financial readiness: FWB score, financial satisfaction, and financial anxiety. Models were fitted separately for the civilian and military subsets using the same indicators.

Key Regression Findings

Note that regression analyses identify the *unique* variance in the financial readiness indicator (outcome) explained by the financial behavior (predictor) *after accounting for other financial behaviors* and contextual considerations (control variables identified on page 35). That is, these associations between behaviors and financial readiness are not explained by the other variables included in the analysis.

Table 3.2 provides an overview of the statistically significant associations between financial behaviors and the financial readiness indicators. Financial behaviors associated with better outcomes (that is, *higher* FWB scores, *greater* financial satisfaction, and *less* financial anxiety) are visually depicted in green; financial behaviors associated with poorer outcomes (that is, *lower* FWB scores, *less* financial satisfaction, and *greater* financial anxiety) are visually depicted in orange.

TABLE 3.2. REGRESSION RESULTS BY GROUP

	Civilian (*n* = 34,302)	Military (*n* = 927)	Civilian (*n* = 34,302)	Military (*n* = 927)	Civilian (*n* = 34,302)	Military (*n* = 927)
Financial Behavior	**FWB SCORE**		**Financial Satisfaction**		**Financial Anxiety**	
Credit Card Management (reference = Accrue credit card fees and/or interest)					(-) = DECREASED Anxiety (+) = INCREASED Anxiety	
Pay credit card balance in full	(+)		(+)		(-)	
Do not have credit cards	(+)		(-)		(-)	
Emergency Fund Savings (reference = No, do not have)						
Have an emergency fund that would cover 3 months of expenses	(+)		(+)	(+)	(-)	
Spending Habits (reference = Spend less than income)						
Spend the same as income	(-)	(-)			(+)	
Spend more than income	(-)	(-)	(-)		(+)	
Using Alternative Financial Services (reference = Never used)						
Used one or more forms of AFS no more than **once** in 5 years			(+)			(+)
Used one or more forms of AFS no more than **twice** in 5 years		(-)	(+)	(+)		(+)
Used one or more forms of AFS no more than **three** times in 5 years			(+)	(+)		
Used one or more forms of AFS **four or more times** in 5 years		(-)	(+)	(+)		(+)
Retirement Account Savings (reference = No, do not have)						
Have retirement savings account through employer						
Have retirement savings account **not** through employer	(+)		(+)		(-)	

Note. To control for multiple comparisons, Bonferroni-corrected p-values were used to conservatively determine statistical significance.

A greater number of statistically significant associations emerged for the civilian subset than for the military subset. While both subsets had sufficient sample sizes for regression analyses, the military subset was smaller (n = 927 for Service members vs. n = 34,302 for civilians). Fewer observations may lead to less statistical power, thereby limiting the ability to detect statistical significance.

Healthy financial behaviors connected to financial readiness for **civilians** included:

- Paying credit card balance in full,
- Having an emergency fund, and
- Having a retirement account not through employer.

Unhealthy financial behaviors connected to financial readiness for **civilians** included:

- Spending the same as income,
- Spending more than income, and
- Using AFS.

Healthy financial behaviors connected to financial readiness for **Service members** included:

- Having an emergency fund.

Unhealthy financial behaviors connected to financial readiness for **Service members** included:

- Spending the same as income,
- Spending more than income, and
- Using AFS.

Counterintuitive Regression Associations

AFS use was unexpectedly associated with greater financial satisfaction for both civilians and Service members. Although this is perplexing by itself, this finding is even more counterintuitive when considered in combination with the positive association between Service members' AFS use and financial anxiety. That is, why do Service members who use AFS simultaneously experience greater financial satisfaction *and* greater financial anxiety than those who do not use AFS?

One contributing factor is the limited variability in key measures for the military subset, which may partly explain these findings.

For instance, variation in who used AFS by financial readiness outcome was explored (see **Figure 3.6**). 74.2% of Service members indicated that they used AFS *and* simultaneously reported that they were financially satisfied (evidenced by a score >5 on a 10-point scale). Similarly, 73.5% of Service members indicated that they used AFS and simultaneously reported being financially anxious (score >4 on a 7-point scale).

PROPORTION WHO USES AFS BY OUTCOME AND GROUP

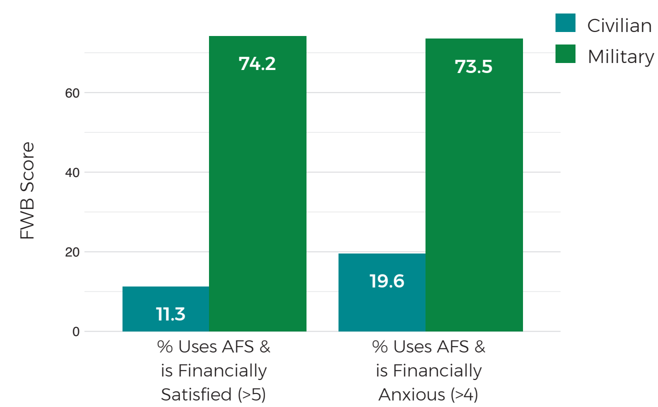


FIGURE 3.6.

This lack of variability where respondents *simultaneously* used AFS and were satisfied and/or anxious was observed for the military subset only. In other words, and as shown by the blue and green bars, this high co-occurrence suggests a lack of variability within the military subset and is a trend that was not present for the civilian subset.

These counterintuitive findings and lack of other significant associations are examined at greater length in Section 3 of this chapter.

SECTION 3
Examination of Counterintuitive Findings

As noted in previous sections, there were several unexpected—and inconsistent—findings. For instance,

- Service members averaged more favorable scores than civilians for financial satisfaction but less favorable scores for FWB and financial anxiety;
- Financial satisfaction was associated with lower FWB scores and greater financial anxiety for Service members; and
- AFS use was associated with greater financial satisfaction (for civilians and Service members).

To better understand these results, additional consideration and supplemental analyses were conducted with a focus on understanding and differentiating the financial readiness indicators. This process included examining item wording to assess face and content validity and analyzing the findings in relation to other conceptually relevant data.

What FWB Measures

The wording and framing of the items comprising the CFPB's five-item FWB scale are:

- Because of my money situation, I feel like I will never have the things I want in life. [negative]
- I am just getting by financially. [negative]
- My finances control my life. [negative]
- I am concerned that the money I have or will save won't last. [negative]
- I have money left over at the end of the month. [positive]

Scale responses for the first three statements range from "Does not describe me at all" to "Describes me completely." Scale responses for "I am concerned…" and "I have money…" range from "Never" to "Always."

The scale appears to focus primarily on the security achieved by a ready cash flow (i.e., liquidity). More specifically, because four of the five questions are negatively worded, the items assess the *insecurity* a respondent feels given a lack of ready cash flow, scoring *greater* security or well-being with higher values.

AFS USE, BILL DIFFICULTY, AND SPENDING BY GROUP

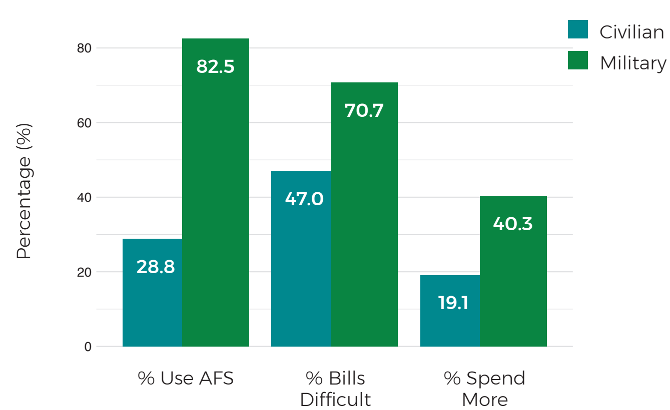


FIGURE 3.7.

AFS usage, difficulty paying bills, and spending habits are other available measures within the NFCS dataset that are closely connected to cash flow, or liquidity (see Figure 3.7). Recall that the average FWB score for Service members was lower than for civilians. Consistent with that difference, 82.5% of Service members overall reported using some form of AFS—e.g., a payday loan—at least once, compared to 28.8% of civilians. Additionally, 70.7% of Service members reported that it was *somewhat* or *very* difficult to pay their bills, compared to 47.0% for civilians, and 40.3% of Service members spent more than their income compared to 19.1% of civilians. These characteristics are present despite the military subset indicating higher household incomes than civilians, on average. These characteristics would also contribute to both correlation and regression results.

What Financial Satisfaction Measures

Compared to the multi-item FWB scale, the financial satisfaction question was a single-item measure that asks, "Overall, thinking of your assets, debts and savings, how satisfied are you with your current personal financial condition?"

The response options ranged from 1 (not at all satisfied) to 10 (extremely satisfied). This question frames satisfaction with personal financial condition by implicitly asking respondents to evaluate their asset-to-debt ratio. Recall that the average financial satisfaction score for Service members was higher than civilians.

TABLE 3.3. DISTRIBUTION OF ASSETS AND DEBT BY GROUP

	Civilian	Military
Auto Loan	29.6%	72.1%
Own Home	56.9%	76.7%
Savings Account	73.2%	83.1%
Retirement Savings *Not* Through Employer	31.5%	70.7%
Invest	34.6%	76.7%
Mean Subjective Debt Level (Scale 1–7)	3.5	5.4

Note. Percentages determined by completed responses.

An examination of other available data in the NFCS dataset that capture major assets, debts, and savings (see **Table 3.3**) showed that Service members were overwhelmingly more likely than civilians to have a vehicle and own their home. They were also more likely to have a savings account, have a personal retirement savings account, and to invest in stocks, bonds, mutual funds, or other securities beyond their retirement account.

Although Service members reported more debt than civilians, these findings, overall, indicate that Service members perceive their asset-to-debt ratio more favorably than civilians. Thus, a better understanding of what the measure captures adds clarity for interpreting the correlation and regression results.

What Financial Anxiety Measures

Financial anxiety was a single item stating, "Thinking about my personal finances can make me feel anxious." Response options ranged from 1 (strongly disagree) to 7 (strongly agree). Recall that Service members, on average, reported greater financial anxiety than civilians. On the basis of other available NFCS data (see **Table 3.4**), Service members appear to experience more short-term financial challenges than civilians, which may explain their greater anxiety.

For instance, far more Service members than civilians reported bills as *very* difficult to pay (44.9% vs. 10.9%), overdrawing accounts (71.8% vs. 18.8%), having unpaid medical bills (62.8% vs. 22.3%), and having been contacted by debt collection (62.4% vs. 17.9%).

Additionally, more than 77% of Service members had taken a loan or hardship withdrawal from their retirement account to pay for expenses (compared to just 11.8% of civilians).

In sum, these cumulative characteristics represent "financial stressors" and may indicate that Service members in this sample experience greater financial distress than civilians. The discrepancy among financial stressors would also contribute to correlation and regression findings.

TABLE 3.4. DISTRIBUTION OF STRESSORS BY GROUP

	Civilian	Military
Bills *Very* Difficult	10.9%	44.9%
Overdraw Accounts	18.8%	71.8%
Have Unpaid Medical Bills	22.3%	62.8%
Contacted by Debt Collection in Last 12 Months	17.9%	62.4%
Borrowed From Retirement Account in Last 12 months	11.8%	77.7%

Note. Percentages determined by completed responses.

Understanding Financial Readiness Indicators

This review of how the financial readiness indicators were measured and supporting data suggests the following:

- The NFCS financial satisfaction item measures how a respondent feels about the current assets they possess (e.g., auto and home);
- The FWB scale measures a respondent's perceived inability to pay for their near-term needs (e.g., monthly expenses); and
- The NFCS financial anxiety item measures the respondent's perceived level of stress or concern about their inability to meet their near-term needs.

Financial Knowledge as an Additional Consideration

In supplemental analyses, financial knowledge emerged as a factor that may contribute to these findings. Specifically, analyses examined the *difference* between what a Service member thought they knew (i.e., subjective knowledge) and what the respondent actually knew (i.e., objective knowledge), or **knowledge discrepancy**. In other words, the more a respondent thought they knew, but the less they actually knew, the greater the knowledge discrepancy was (see **Figure 3.8**).

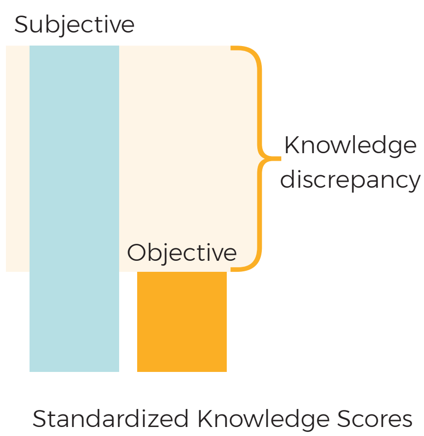


FIGURE 3.8.

COMPARISON OF SUBJECTIVE AND OBJECTIVE KNOWLEDGE BY GROUP

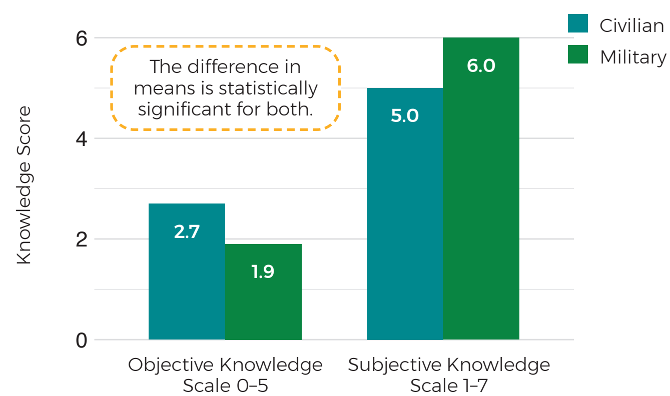


FIGURE 3.9.

The knowledge discrepancy was most relevant to the military subset as Service members, on average, had *less* objective knowledge (e.g., fewer than 2 out of 5 correct) but reported greater subjective knowledge (e.g., 6 out of 7) (see **Figure 3.9**).[4] Hence, the knowledge discrepancy was greater, overall, for the military subset than the civilian.

This knowledge discrepancy was related to financial readiness indicators for Service members.

- Those with greater knowledge discrepancy (i.e., positive subjective - objective values) generally reported less FWB and greater financial anxiety; interestingly, they also reported greater financial satisfaction.
- Conversely, those with less knowledge discrepancy (i.e., more closely aligned subjective and objective knowledge) tended to report greater FWB, less financial anxiety, and less financial satisfaction.

It is possible that *knowledge discrepancy* contributes to the accumulation of assets (captured by the *financial satisfaction* measure); however, in the process of accumulating assets, those who lack objective knowledge to match their subjective knowledge may engage in unhealthy financial behaviors (e.g., taking on unmanageable debt that leads to AFS use), ultimately resulting in greater financial anxiety and less FWB.

[4] For **subjective financial knowledge**, respondents assessed their "overall financial knowledge" on a single item ranging from 1 (very low) to 7 (very high). For **objective financial knowledge**, respondents selected answers for five questions about financial facts (e.g., "Buying a single company's stock usually provides a safer return than a stock mutual fund"), and a sum score indicated the number of correct responses (range: 0–5).

Figure 3.10 illustrates what this compounding process might look like:

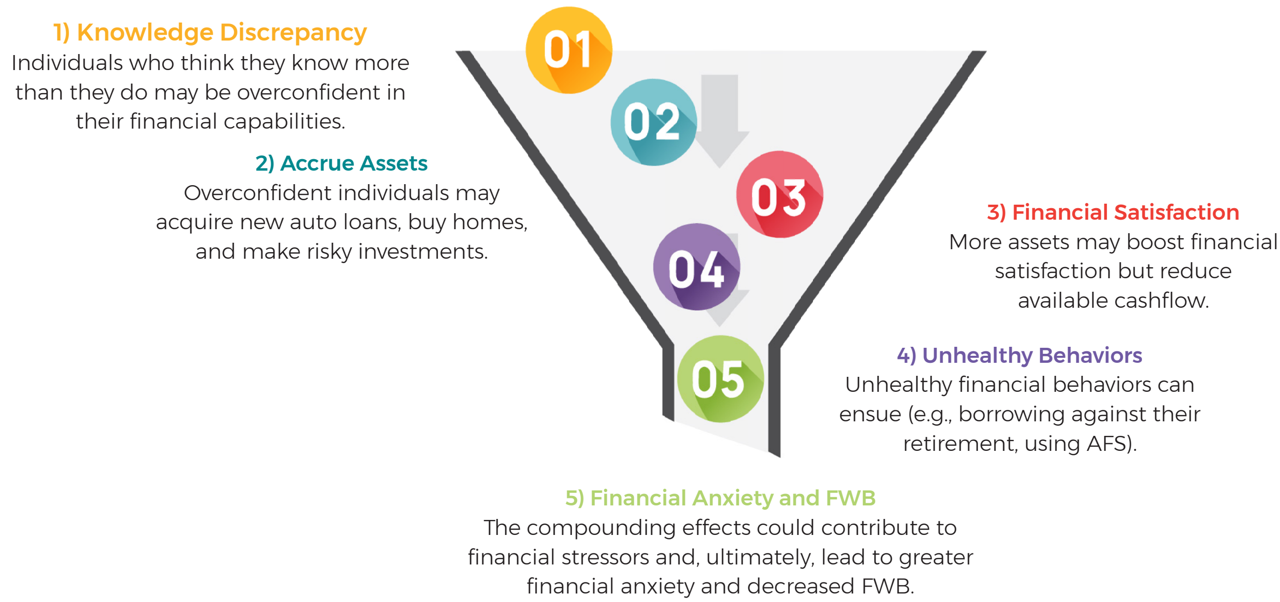


FIGURE 3.10.

Why This Matters

Two salient takeaways are as follows:

1. A robust understanding of what is actually being measured is essential.
   A proper understanding of financial readiness indicators is critical for interpreting overall findings, emphasizing the importance of carefully developing and selecting measures for survey use.
2. The knowledge discrepancy has implications for financial literacy education and training.
   The identification of a knowledge discrepancy and its association with financial readiness indicators supports the importance of (a) financial literacy overall, (b) the value of financial literacy training and education targeting knowledge discrepancies, and, consequently, (c) the merit of evaluating knowledge discrepancies as an indicator of training efficacy.

In sum, aligning subjective knowledge (what a person thinks they know) with objective knowledge (what a person actually knows) could improve the financial decision-making skills, and, ultimately, financial readiness of Service members. Thus, the thoughtful consideration of appropriate measures is crucial when assessing the effectiveness of financial readiness efforts.

SECTION 4

Validation of Practical Checklist and Scoring Guide

In analyses with the SOFS data, a checklist was developed identifying **key indicators that serve as practical red flags for monitoring financial readiness with relatively objective, behavioral metrics (e.g., having an emergency fund).** See Section 4 of the SOFS chapter for more on the rationale and development of this checklist.

Because the intent is to "predict" a Service member's financial readiness, the summed scores from the checklist indicate the level of statistical *confidence* in financial readiness rather than a firm, definitive assessment that the Service member *is* financially ready. The aim of a brief, broadly deployable tool, such as this checklist, is to help identify Service members who are less likely to be financially ready, with the expectation that additional detailed assessment and assistance would follow. The tool complements the often-used FWB scale by offering relatively *objective indicators* for monitoring financial readiness.

SOFS and NFCS Practical Checklist Comparison

A goal with the NFCS dataset was to validate the SOFS checklist and scoring guide by applying it to analogous constructs in NFCS dataset. In other words, concepts used with the SOFS datasets were tested with the NFCS dataset to determine whether they produced consistent scoring distributions. Although the measures available in the SOFS and NFCS datasets were not identical, an effort was made to align **similar constructs** and preserve the integrity of each construct's **scoring** between the datasets. While identical measures would provide the strongest replication test, these similar measures serve the purpose of an initial replication study. See **Appendix 3.B** for a comparison of SOFS and NFCS concepts and score values.

Application of the Practical Checklist and Scoring Guide

As previously noted in the SOFS chapter and based on previous research, individuals with scores below the median on the CFPB FWB scale (i.e., 50 on a 100-point scale) are more likely to struggle financially. Therefore, a FWB score of 50 was used as an identifier for financial readiness. In other words, those with FWB scores of 50 or greater were assumed to be financially ready.

With this binary indicator for "financial readiness" (defining a FWB score of 50 or greater as "ready"), the scoring guide was then applied to NFCS respondents, and the model was used to predict whether a respondent was "ready" based on their checklist score. With the full NFCS sample with Service members and civilians, the model correctly predicted the probability that a respondent was "ready" at least 85% of the time. With respect to only the military subset, the practical checklist model had a **predictive accuracy of 81%**. These numbers are similar to the predictive accuracy of the SOFS models.

From the predictive model with the practical checklist, three distinct intervals were identified (see **Table 3.5**). Respondents with a checklist score of less than 8.25 had a 90% probability of being financially ready (that is, having a FWB score of greater than 50), whereas there was a 50% probability of being financially ready for those with a checklist score between 8.26 and 14.5, and less than a 50% probability of being financially ready for those with a checklist score higher than 14.6. Thus, scores largely fell into one of three groups, indicating "*high confidence*" in financial readiness, "*moderate confidence*," and scores that signal "*a closer assessment*" of financial readiness is needed.

Notably, comparisons of the threshold values distinguishing the groups identified only small variations between the SOFS and NFCS datasets. Some variation was expected given the differences in measures and scoring criteria across the two datasets. Overall, the similarity indicates an impressive level of consistency and supports the effectiveness of this tool to monitor and assess financial readiness.

TABLE 3.5. CHECKLIST CONFIDENCE THRESHOLDS BY GROUP

	Likelihood of Being "Ready" (≥ 50 FWB)		
	≥ 90%	**50%**	**50% to 10%**
SOFS Score	1-10	11-15	16-31.25
NFCS Score	1–8.25	8.26–14.5	14.6–31.25

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Appendix 1

MEASURES FROM THE SURVEY OF HOUSEHOLD ECONOMICS AND DECISIONMAKING

OUTCOME MEASURES AS INDICATORS OF FINANCIAL READINESS				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**YEAR(S)**	**RESPONSE CODING**
Financial condition	Overall, which one of the following best describes how well you are managing financially these days?	- Finding it difficult to get by - Just getting by - Doing okay - Living comfortably	2019–2023	• Lower Levels (difficult to get by or just getting by) • Doing okay • Living comfortably
Compared to 12 months ago	Compared to 12 months ago, would you say that you (and your family) are better off, the same, or worse off financially?	- Much worse off - Somewhat worse off - About the same - Somewhat better off - Much better off	2019–2023	• Worse off • About the same • Better off
Overall satisfaction with life	Overall, on a scale from zero to ten, where zero is not at all satisfied and ten is completely satisfied, how satisfied are you with life as a whole these days?	- 0 – Not at all satisfied to 10 – Completely satisfied	2021–2022	• 0–10
Financial well-being	Scored version of CFPB 5-question scale (e.g., How well do each of these statements describe you or your situation? – I am concerned that the money I have or will save won't last)	- Refused - Completely - Very well - Somewhat - Very little - Not at all	2020	• Numeric scale from 0–100, 100 high

FINANCIAL BEHAVIORS				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**YEAR(S)**	**RESPONSE CODING**
Carrying credit card balances	In the past 12 months, how frequently have you carried an unpaid balance on one or more of your credit cards?	- Never carried an unpaid balance (always pay in full) - Once - Some of the time - Most or all of the time	2019–2023	• Never carried an unpaid balance (always pay in full) • Once • Some of the time • Most or all of the time
Retirement savings account	Do you currently have each of the following types of savings or assets? – Retirement savings account, such as a 401(k) plan through an employer, IRA or Roth IRA	- No - Yes	2019–2023	• No (0) • Yes (1)
Emergency fund	Have you set aside emergency or rainy day funds that would cover your expenses for 3 months in case of sickness, job loss, economic downturn, or other emergencies?	- No - Yes	2019–2023	• No (0) • Yes (1)
Spending habits	In the past month, would you say that your [and your spouse's or partner's] total spending was:	- Less than your income - The same as your income - More than your income	2019–2023	• Less than your income • The same as your income • More than your income
Financial support to others	Do you provide regular financial support to anyone living outside of your household (such as a parent, child, other relatives, or friends)? This may include cash or help with rent, groceries, education expenses, student loans, car payments, or other expenses.	- No - Yes	2019–2021	• No (0) • Yes (1)
AFS Use	if "Yes" to BK2_c, BK2_d, or BK2_e (e.g., ¬In the past 12 months, did you (and/or your spouse or partner) – Take out a payday loan or payday advance)	- No - Yes	2019–2023	• No (1) • Yes (2)

CONTEXTUAL CONSIDERATIONS (CONTROLS)				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**YEAR(S)**	**RESPONSE CODING**
Marital status	Marital Status	- Now married - Widowed - Divorced - Separated - Never married	2019–2023	• Married (1) • Other (0)
Children under 18 in home	First, do each of the following people currently live with you? – My child(ren) under age 18	- No - Yes	2019–2023	• No (0) • Yes (1)
Employment status	Current Employment Status	- Working full-time - Working part-time - Not working	2019–2023	• Not working (0) • Working (1) (Working full-time or Working part-time)
Age group	Age	- Individual values 18–100	2019–2023	• 21–24 • 25–34 • 35–44 • 45–54 • 55–61
Race	Race/Ethnicity	- White, Non-Hispanic - Black, Non-Hispanic - Other, Non-Hispanic - Hispanic - 2+ Races, Non-Hispanic	2019–2023	• Non-White (0) • White (1)
Gender	Gender	- Female - Male	2019–2023	• Female (0) • Male (1)
Household income	Household Income	- Less than $10,000 - $10,000 to $24,999 - $25,000 to $49,999 - $50,000 to $74,999 - $75,000 to $99,999 - $100,000 to $149,999 - $150,000 or more	2019–2023	• 1-7
Homeownership	Do you (and/or your spouse or partner):	- Own your home with a mortgage or loan - Own your home free and clear (without a mortgage or loan) - Pay rent - Neither own nor pay rent	2019–2023	• Own – yes mortgage • Own – no mortgage • Rent • Something else
Checking, savings, or money market account	Do you (and/or your spouse or partner) currently have a checking, savings or money market account?	- No - Yes	2019–2023	• No (0) • Yes (1)

CONTEXTUAL CONSIDERATIONS (CONTROLS) CONTINUED				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**YEAR(S)**	**RESPONSE CODING**
College degree (4yr +)	What is the highest level of school you have completed or the highest degree you have received?	- Less than high school degree - High school degree or GED - Some college but no degree (including currently enrolled in college) - Certificate or technical degree - Associate degree - Bachelor's degree - Master's degree - Professional degree (e.g., MBA, MD, JD) - Doctoral degree	2019–2023	• No (0) (Less than high school degree, High school degree or GED, Some college but no degree, certificate or technical degree, Associate degree) • Yes (1) (Bachelor's degree, Master's degree, Professional degree)
Student loans	Do you currently have any student loan debt from your own education?	- No - Yes	2019–2023	• No (0) • Yes (1)
SNAP	Supplemental Nutrition Assistance Program (SNAP or food stamps) – In the past 12 months, have you [and/or your spouse or partner] received any of the following?	- No - Yes	2019–2023	• No (0) • Yes (1)
Income volatility	In the past 12 months, which one of the following best describes your [and your spouse's or partner's] income?	- Roughly the same amount each month - Occasionally varies from month to month - Varies quite often from month to month	2019–2023	• Roughly the same amount each month • Occasionally varies from month to month • Varies quite often from month to month
Objective financial knowledge	Count of number of correct answers to 3 knowledge questions (e.g., 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?)	- Correct responses = 1 - Incorrect or Don't know responses = 0	2019–2022	• 0–3

Appendix 2.A

MEASURES FROM THE STATUS OF FORCES SURVEYS

OUTCOME MEASURES AS INDICATORS OF FINANCIAL READINESS				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Financial condition	MNYCOMFORT: Which of the following best describes your (and/or your spouse's) financial condition?	1. Very comfortable and secure 2. Able to make ends meet without much difficulty 3. Occasionally have some difficulty making ends meet 4. Tough to make ends meet but keeping your head above water 5. In over your head	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Two variables were created for analytic purposes: a numeric scale from 1–5, reverse coded with 5 being Comfortable, and a collapsed ordinal factor where options 1 & 2 = Comfortable, 3 = Some difficulty, and 4 & 5 = Not comfortable
Financial well-being	FINSIT1C, FINSIT1E, FINSIT1F, FINSIT2B, FINSIT2D: Scored version of CFPB 5-question scale Sample: How well do each of these statements describe you or your situation? – I am concerned that the money I have or will save won't last	Sample: 1. Not at all 2. Very little 3. Somewhat 4. Very well 5. Completely	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric scale from 0–100, 100 high

FINANCIAL BEHAVIORS				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Credit card payment behavior	CCDEBT: Which of the following options best describes how you routinely pay credit card debt?	1. Pay credit card balance in full each month 2. Pay more than the minimum payment but not full balance 3. Pay only minimum payment 4. I do not use credit cards	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· Numeric scale from 1–5, with 5 high Dummy variables created with option 4 as the reference
Emergency fund savings: Have	EMFUND/2: How much do you (and your spouse, if applicable) have in an emergency savings fund, in terms of your average monthly expenses?	1. Less than 1 month 2. Between 1 and 3 months 3. Between 3 and 6 months 4. More than 6 months 5. I do not have an emergency savings fund	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· 1–4 coded as Yes · 5 coded as No
Emergency fund savings: Amount	EMFUND/2: How much do you (and your spouse, if applicable) have in an emergency savings fund, in terms of your average monthly expenses?	1. Less than 1 month 2. Between 1 and 3 months 3. Between 3 and 6 months 4. More than 6 months 5. I do not have an emergency savings fund	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· Dummy variables created with option 5 as the reference
Financial goals	FINGOAL5_: Please indicate whether the following are financial goals for you (and your spouse, if applicable). If a goal does not apply to you, please select “No, this is not a goal for me/us.” Mark one answer for each item.	1. Yes, this is a goal for me/us 2. No, this is not a goal for me/us 3. I/we have met this goal	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· Response options for the multiple variables coded as Yes, No, or Met
Management of finances	FMACTDO4_: Which of the following activities do you do routinely in order to manage your finances? Mark “Yes” or “No” for each item. Sample: Follow a monthly budget or spending plan…	1. No 2. Yes	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· Response options for the multiple variables coded as Yes or No
Alternative financial services	FINPROD3_: In the past 12 months, have you (and your spouse, if applicable) used any of the following financial products or services to cover routine expenses? Mark “Yes” or “No” for each item.	1. No 2. Yes	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· A dichotomous indicator for AFS use if any response was Yes

FINANCIAL BEHAVIORS CONTINUED				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Saving versus spending habits	SVGINVHAB: Which of the following statements best describes your (and your spouse's, if applicable) saving or investment habits?	1. Unable to save or invest – usually spend more than income 2. Unable to save or invest – usually spend about as much as income 3. Save or invest whatever is left over at the end of the month – no regular plan 4. Save or invest regularly by putting money aside each month	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Dummy variables created with option 4 as the reference • Ordinal numeric scale from 1–4, with 4 = Saving with a plan

MISSION READINESS MEASURES				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Satisfaction with being in the military: Total Compensation	SATMLA Taking all things into consideration, how satisfied are you, in general, with each of the following aspects of being in the military?	1 Very dissatisfied 2 Dissatisfied 3 Neither satisfied nor dissatisfied 4 Satisfied 5 Very satisfied	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric scale from 1–5, with 5 high
General health	GENHLTH: Would you say that in general your health is...	1. Poor? 2. Fair? 3. Good? 4. Very good? 5. Excellent?	• 2020 SOFS-A	• Numeric scale from 1–5, with 5 high
Unit cohesion	(from Basic Use File) Tab: Unit cohesion scale constructed from Q84a–Q84d.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree	• 2020 SOFS-A	• Numeric scale from 1–5, with 5 high
Retention intent	RETINT1 Suppose that you have to decide whether to stay on active duty [SOFS-A]. Assuming you could stay, how likely is it that you would choose to do so?	1. Very unlikely 2. Unlikely 3. Neither likely nor unlikely 4. Likely 5. Very likely	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric scale from 1–5, with 5 high
Satisfaction with military life: PCS moves	MLASPB How satisfied are you with each of the following aspects of military life? Mark one answer for each item. b. Frequency of PCS moves	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied nordissatisfied 4. Satisfied 5. Very satisfied	• 2020 SOFS-A	• Numeric scale from 1–5, with 5 high
Preparedness	SOFS-A: PREPRD1–4 SOFS-R: PREPARESELF, PREPAREUNIT, PREPARETRAN Sample: Overall, how well prepared are you to perform your wartime job?	1. Very poorly 2. Poorly 3. Neither well nor poorly 4. Well 5. Very well	• 2020 SOFS-A • 2020 SOFS-R (-wartime_job) • 2022 SOFS-A • 2022 SOFS-R (-wartime_job)	• Numeric scale from 1–5, with 5 high

ECONOMIC HARDSHIP EXPERIENCES				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Financial challenges	MNYHLTH4/5_: In the *past 12 months*, did any of the following happen to you (and/or your spouse)? Mark "Yes" or "No" for each item. (e.g., b. Failed to make a monthly/ minimum payment on your credit card, including the Military Star Card)	1. No 2. Yes	• 2020 SOFS-A (A–P, + bounced check) • 2020 SOFS-R (A–P, + bounced check) • 2022 SOFS-A (A–P) • 2022 SOFS-R (A–P)	• Response options for the multiple variables coded as Yes or No

CONTEXTUAL CONSIDERATIONS (CONTROLS)				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
General financial knowledge	FINLIT1, FINLIT2, FINLIT3, FINLIT4 Sample: Suppose you had $100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?	Sample: 1. More than $102 2. Exactly $102 3. Less than $102 4. Don't know	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric sum from 0–4, with 4 high
Military-specific financial knowledge	FINLIT6, FINLIT9, FINLIT10, FINLIT13, FINLIT14, FINLIT15 Sample: Under the Blended Retirement System (BRS), the government will contribute 1% of your base pay to your Thrift Savings Plan (TSP) account and match up to an additional ___ percent based on your TSP contribution after you are vested in TSP.	Sample: 1. 4% for a total of 5% 2. 5% for a total of 6% 3. There is no government match 4. Don't know	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric sum from 0–6, with 6 high
Personal stress	SOFS-A: PSTRESS SOFS-R: STRESSPRSN Overall, how would you rate the current level of stress in your personal life?	1. Much less than usual 2. Less than usual 3. About the same as usual 4. More than usual 5. Much more than usual	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric scale from 1–5, with 5 high
Work stress	SOFS-A: WSTRESS SOFS-R: STRESSMIL Overall, how would you rate the current level of stress in your work life?	1. Much less than usual 2. Less than usual 3. About the same as usual 4. More than usual 5. Much more than usual	• 2020 SOFS-A • 2020 SOFS-R • 2022 SOFS-A • 2022 SOFS-R	• Numeric scale from 1–5, with 5 high

CONTEXTUAL CONSIDERATIONS (CONTROLS) CONTINUED				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Rank/pay grade	XPAYGRP2R	1. E1–E4 2. E5–E9 3. W1–W5, O1–O3 4. O4–O6	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· E1–E4 · E5–E9 · W1–W5, O1–O3 · O4–O6
Marital status	XMARST Cross: Marital Status. Constructed from self-report (SRMARST) and record data (MRTL_STA).	1. Not married 2. Married	· 2020 SOFS-A · 2022 SOFS-A	· Not married · Married
Service branch (SOFS-A)	XSVC Cross: Imputed Service	1. Army 2. Navy 3. Marine Corps 4. Air Force 5. Coast Guard	· 2020 SOFS-A · 2022 SOFS-A	· Army · Navy · Marine Corps · Air Force · Coast Guard
Service branch (SOFS-R)	XSRRC Cross: Reserve Component	1. Army National Guard 2. Army Reserve 3. Navy Reserve 4. Marine Corps Reserve 5. Air National Guard 6. Air Force Reserve 7. Coast Guard Reserve	· 2020 SOFS-R · 2022 SOFS-R	· Army National Guard · Army Reserve · Navy Reserve · Marine Corps Reserve · Air National Guard · Air Force Reserve · Coast Guard Reserve
Received financial information	RCVINFO_: From which of the following resources have you received information, training, or counseling on any financial topic? Mark "Yes" or "No" for each item. a) Military financial training, class, or seminar (online or classroom) b) Military financial counseling (e.g., Personal Financial Manager [PFM], Personal Financial Counselor [PFC], Career Readiness Consultant [CRC], telephone counseling) c) Unit leadership or financial specialist within your unit (e.g., Command Financial Specialist, Corporal for Financial Fitness, Command Financial NCO) f) Online military resource(s) (e.g., Military OneSource, Office of Financial Readiness, Sen$e app, Financial Readiness Program)	1. No 2. Yes	· 2020 SOFS-A · 2020 SOFS-R · 2022 SOFS-A · 2022 SOFS-R	· A dichotomous variable indicating "Yes" to having received information, training, or counseling on any financial topic from any response for a, b, c, or f.

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Appendix 2.B

Practical Checklist and Score Values

1. Which of the following options best describes how you routinely pay credit card debt?
   a. Pay credit card balance in full each month **(0 points)**
   b. Pay more than the minimum payment but not full balance **(0.25 points)**
   c. Pay only minimum payment **(1 point)**
   d. I do not use credit cards **(0 points)**

2. How much do you (and your partner, if applicable) have in an emergency fund, in terms of your average monthly expenses?
   a. Less than 1 month **(1.75 points)**
   b. Between 1–3 months **(1.5 points)**
   c. Between 3–6 months **(1 point)**
   d. More than 6 months **(0 points)**
   e. I do not have an emergency savings fund **(2 points)**

3. Which of the following statements best describes your (and your partner's, if applicable) saving or investment habits?
   a. Unable to save or invest – usually spend more than income **(4 points)**
   b. Unable to save or invest – usually spend about as much as income **(3.75 points)**
   c. Save or invest whatever is left over at the end of the month – no regular plan **(2.25 points)**
   d. Save or invest regularly by putting money aside each month **(0 points)**

4.In the past 12 months, have you (and your partner, if applicable) used any of the following financial products or services to cover *routine* expenses? Mark "Yes" or "No" for each item.
("Yes" to ANY = 2 points total for question # 4)
   a. Overdraft loan or line of credit
   b. Overdraft protection from savings, credit card, or another account
   c. Direct deposit advance loan
   d. Payday loan
   e. Vehicle title loan
   f. Cash advance on a credit card
   g. Pawn loan
   h. Loan or grant from a military aid society (e.g., Army Emergency Relief, Navy-Marine Corps Relief Society, Air Force Aid Society, Coast Guard Mutual Assistance)
   i. Other loan obtained online

5. In the past 12 months, did any of the following happen to you (and/or your partner?) Mark "Yes" or "No" for each item.
   a. Borrowed money from family and/or friends to pay bills **(1 point)**
   b. Provided unplanned financial support to a family member who did not live with you **(0.75 points)**
   c. Had personal relationship problems with your partner due to finances **(6.5 points)**
   d. Took money out of a retirement fund or investment to pay for living expenses **(4 points)**

6. Please indicate whether the following are financial goals for you (and your partner, if applicable). If a goal does not apply to you, please select "No, this is not a goal for me/us." Mark one answer for each item.
   a. Being debt free, except for a mortgage (Yes, No, Met) **("Yes" or "No" = 1 point)**
   b. Saving for retirement (Yes, No, Met) **("Yes" or "No" = 1.5 points)**
   c. Saving for a safety net/emergency fund (Yes, No, Met) **("Yes" or "No" = 1.5 points)**

7. Overall, how would you rate the current level of stress in your personal life?
   a. Much less than usual (0 points)
   b. Less than usual (1.5 points)
   c. About the same as usual (3 points)
   d. More than usual (4.5 points)
   e. Much more than usual (6 points)

Appendix 3.A

MEASURES FROM THE NATIONAL FINANCIAL CAPABILITY STUDY

Note: NFCS survey items contained additional 98 "*Don't know*" and 99 "*Prefer not to say*" response options. All 98 and 99 values were treated as missing except where noted.

OUTCOME MEASURES AS INDICATORS OF FINANCIAL READINESS				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Financial well-being	J41_1, J41_2, J41_3, J42_1, J42_2: Scored version of CFPB 5-question scale Sample: How well do these statements describe you or your situation? – I am concerned that the money I have or will save won't last	Sample: 1. Does not describe me at all 2. Describes me very little 3. Describes me somewhat 4. Describes me very well 5. Describes me completely	• 2018 • 2021	• Numeric scale from 0–100, 100 = high
Financial satisfaction	J1: Overall, thinking of your assets, debts, and savings, how satisfied are you with your current personal condition?	Scale 1 (Not at all satisfied) to 10 (Extremely satisfied)	• 2018 • 2021	• Numeric scale from 1–10, 10 = Satisfied
Financial anxiety	J33_40: Thinking about my personal finances can make me feel anxious.	Scale 1 (Strongly disagree) to 7 (Strongly agree)	• 2018 • 2021	• Numeric scale from 1–7, 7 = Anxious

FINANCIAL BEHAVIORS				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Credit card payment behavior	F1: How many credit cards do you have? F2: In the past 12 months, which of the following describes your experience with credit cards (Select an answer for each): F2_1: I always paid my credit cards in full F2_2: In some months, I carried over a balance and was charged interest F2_3: In some months, I paid the minimum payment only F2_4: In some months, I was charged a late fee for late payment F2_5: In some months, I was charged an over the limit fee for exceeding my credit line F2_6: In some months, I used the cards for a cash advance	F1: options 1–6 indicated an amount of credit cards, 7 indicated “No credit cards” F2_1–F2_6: Yes (1) or No (2)	· 2018 · 2021	· “No credit cards”: F1 = 7 · “Pay in full”: F2_1 = 1 & F2_3 !=1 (excludes those who also indicated paying only the minimum) · “Other negative credit card behavior”: F2_3 = 1 | F2_2 = 1 | F2_4 = 1 | F2_5 = 1 | F2_6 = 1
Maintaining an emergency fund	J5: Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies?	1. Yes 2. No	· 2018 · 2021	· “Has emergency fund” = 1 · “No emergency fund” = 2
Spending habits	J3: Over the past year, would you say your/your household’s spending was less than, more than, or about equal to your/your household’s income?	1. Spending less than income 2. Spending more than income 3. Spending about equal to income	· 2018 · 2021	· Dummy variables created with “Spending less than income” as the reference

Using alternative financial services (AFS)	G25: In the past 5 years, how many times have you… G25_1: Taken out an auto title loan? G25_2: Taken out a short term “payday” loan? G25_3: Gotten an advance on your tax refund? G25_4: Used a pawn shop? G25_5 Used a rent-to-own store?	1. Never 2. 1 time 3. 2 times 4. 3 times 5. 4 or more times	• 2018 • 2021	• “Never used” = Never • “At least once” = maximum of “1 time” for any G25 • “At least twice” = maximum of “2 times” for any G25 • “At least 3 times” = maximum of “3 times” for any G25 • “4 or more times” = maximum of 4 or more times for any G25
Maintaining a retirement account through employer	C1: Do you or your spouse have any retirement plans through a current or previous employer, like a pension plan, a Thrift Savings Plan (TSP), or a 401(k)?	1. Yes 2. No	• 2018 • 2021	• “Yes, retirement from work” = 1 • “No, no retirement from work” = 2
Maintaining a retirement account not through employer	C4: Do you or your spouse have any other retirement accounts NOT through an employer, like an IRA, Keogh, SEP, or any other type of retirement account that have set up yourself?	1. Yes 2. No	• 2018 • 2021	• Yes, retirement from non-work” = 1 • “No, no retirement from non-work” = 2

MILITARY IDENTIFIER				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Military identifier	AM21: Have you ever been a member of the U.S. Armed Services, either in the active or reserve component?	1. Currently a member of the U.S. Armed Services 2. Previously a member of the U.S. Armed Services 3. Never a member of the U.S. Armed Services	• 2018 • 2021	• “Never served” = 3 • “Current member” = 1 • “Veterans” = 2

CONTEXTUAL CONSIDERATIONS (CONTROLS)				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Year	Constructed variable for merged dataset			• 2018 • 2021
Receipt of stimulus payment	J50: Did you receive a pandemic-related stimulus payment from the federal government <u>in 2021</u>?	1. Yes 2. No	• 2021	• "Yes" = 2021 & Received stimulus = 1 • "No" = 2021 & Received stimulus = 2 [Note: ALL of 2018 was coded as "No"]
Gender	A3: What is your gender? A50A: Do you describe yourself as a man, a woman, or in some other way? [Note: Some other way randomly assigned to Male or Female]	1. Male 2. Female	• 2018 (A3) • 2021 (A50A)	• "Male" = 1 • "Female" = 2
Age	A3Ar_w (from A3a): What is your age? [Note: Survey instrument A3a has drop-down menu for individual ages that consolidates into age ranges for A3Ar_w)	1. 18–24 2. 25–34 3. 35–44 4. 45–54 5. 55–64 6. 65+	• 2018 • 2021	• "18 to 24" = 1 • "25 to 34" = 2 • "35 to 44" = 3 • "45 to 54" = 4 • "55 or older" = 5 or 6 [Note: FWB scores calculated before age group recoding. Ages 62, 63, and 64 were counted in the 18–61 scoring due to *initial age range*]
Highest educational attainment	A5_2015 (from A5): What was the highest level of education you completed?	1. Did not complete high school 2. High school graduate – regular high school diploma 3. High school graduate – GED or alternative credential 4. Some college, no degree 5. Associate's degree [sic] 6. Bachelor's degree 7. Post graduate degree	• 2018 • 2021	• Numeric scale 1–7, 7 = high
Marital status	A6: What is your marital status?	1. Married 2. Single 3. Separated 4. Divorced 5. Widowed/widower	• 2018 • 2021	• "Married" = 1 • "Single" = 2 • "Divorced or other" = 3, 4, or 5

Having financial dependents	A11: How many children do you have who are financially dependent on you or your spouse/partner? Please include children not living at home, and step-children as well.	1. 1 2. 2 3. 3 4. 4 or more 5. No financially dependent children 6. Do not have any children	• 2018 • 2021	• "Dependents" = 1, 2, 3, or 4 • "No dependents" = 5 or 6
Employment status	A9: Which of the following best describes your current employment or work status?	1. Self-employed 2. Work full-time for an employer [or the military] 3. Work part-time for an employer [or the military] 4. Homemaker 5. Full-time student 6. Permanently sick, disabled, or unable to work 7. Unemployed or temporarily laid off 8. Retired	• 2018 • 2021	• "Employed full-time" = 1 or 2 • "Employed part-time" = 3 • "Retired, student, or other" = 4, 5, 6, 8 • "Unemployed or laid off
Having a savings account	B2: Do you/your household have a savings account, money market account, or CDs?	1. Yes 2. No	• 2018 • 2021	• "Has savings" = 1 • "No savings" = 2
Objective financial knowledge	M6, M7, M8, M9, M10 [Lusardi's "Big Five"]: Sample: Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	Sample: 1. More than $102 2. Exactly $102 3. Less than $102	• 2018 • 2021	• Constructed scale 0–5, with 5 high, that is the sum of correct answers [Note: option 98, *Don't know*, was treated as incorrect and 99, *Prefer not to say*, treated as missing]

CONTEXTUAL CONSIDERATIONS (CONTROLS) CONTINUED				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Household income	A8, A8_2021: What is your/household's approximate annual income, including wages, tips, investment income, public assistance, income from retirement plans, etc.? Would you say it is...	A8 (2018) 1. Less than $15,000 2. At least $15,000 but less than $25,000 3. At least $25,000 but less than $35,000 4. At least $35,000 but less than $50,000 5. At least $50,000 but less than $75,000 6. At least $75,000 but less than $100,000 7. At least $100,000 but less than $150,000 8. $150,000 or more A8_2021 (2021) 1–7 same 8. At least $15,000 but less than $200,000 9. At least $200,000 but less than $300,000 10. $300,000 or more	· 2018 (A8) · 2021 (A8_2021	· Numeric scale from 1–8, 8 = high [Note: 2021 options 9 and 10 collapsed into option 8]
Experiencing a financial shock	J10: In the past 12 months, have you/has your household experienced a large drop in income which you did not expect?	1. Yes 2. No	· 2018 · 2021	· "Income drop" = 1 ·"No income drop" = 2
Confidence in covering an unexpected expense	J20: How confident are you that you come up with $2,000 if an unexpected need arose with the next month?	1. I am certain I could come up with the full $2,000 2. I could probably come up with $2,000 3. I could probably not come up with $2,000 4. I am certain I could not come up with $2,000	· 2018 · 2021	· Numeric scale 1–4, 4 = High confidence [Note: original scale reverse coded]
Having student loans	G30: Do you currently have any student loans? If so, for whose education was this/were these loan(s) taken out?	G30_1: Yourself G30_2: Your spouse/partner G30_3: Your child(ren) G30_4: Your grandchild(ren) G30_5: Other person G30_97: No, do not currently have any student loans	· 2018 · 2021	· "Yes, have personal student loans" = G30_1 = 1 · "No, no student loans" = G30_1–G30_5 = 0 & G30_97 = 1 · "Yes, other student loans" = G30_2 | G30_3 | G30_4 | G30_5 = 1
Having health insurance	H1: Are you covered by health insurance?	1. Yes 2. No	· 2018 · 2021	· "Yes" = 1 · "No" = 2

Difficulty paying bills	J4: In a typical month, how difficult is it for you to cover your expenses and pay all your bills?	1. Very difficulty 2. Somewhat difficult 3. Not at all difficult	• 2018 • 2021	• Dummy variables created with "Not at all difficult" as the reference
Income volatility	J40: In the past 12 months, which one of the following best describes your income/your and your spouse's income/ your and your partner's income?	1. Roughly the same amount each month 2. Occasionally varies from month to month 3. Varies quite often from month to month	• 2018 • 2021	• "Roughly same" = 1 • "Occasionally varies" = 2 • "Varies often" = 3

MEASURES USED FOR SUPPLEMENTAL ANALYSES PROBING COUNTERINTUITIVE FINDINGS

CONSTRUCT	QUESTION	RESPONSE OPTIONS	DATASET	RESPONSE CODING
Auto loan	G1: Do you/does your household currently have an auto loan?	1. Yes 2. No	• 2018 • 2021	• "Yes" = 1 • "No" = 2
Own home	EA_1: Do you/or your spouse/ partner currently own your home?	1. Yes 2. No	• 2018 • 2021	• "Yes" = 1 • "No" = 2
Savings account	B2: Do you/your household have a savings account, money market account, or CDs?	1. Yes 2. No	• 2018 • 2021	• "Has savings" = 1 • "No savings" = 2
Retirement not through employer	C4: Do you or your spouse have any other retirement accounts NOT through an employer, like an IRA, Keogh, SEP, or any other type of retirement account that have set up yourself?	1. Yes 2. No	• 2018 • 2021	• "Yes, retirement from non-work" = 1 • "No, no retirement from non-work" = 2
Invest	B14: Not including retirement accounts, do you/does your household have any investments in stocks, bonds, mutual funds, or other securities?	1. Yes 2. No	• 2018 • 2021	• "Yes, invest" = 1 • "No, do not invest" = 2

MEASURES USED FOR SUPPLEMENTAL ANALYSES PROBING COUNTERINTUITIVE FINDINGS CONTINUED				
CONSTRUCT	**QUESTION**	**RESPONSE OPTIONS**	**DATASET**	**RESPONSE CODING**
Subjective debt level	G23: How strongly do you agree or disagree with the following statement? I have too much debt right now.	Scale 1 (Strongly disagree) to 7 (Strongly agree)	• 2018 • 2021	• Numeric scale from 1–7, 7 = High level of debt
Bills very difficult	J4: In a typical month, how difficult is it for you to cover your expenses and pay all your bills?	1. Very difficult 2. Somewhat difficult 3. Not at all difficult	• 2018 • 2021	• “Bills very” = 1
Overdraw accounts	B4: Do you/or your spouse/ partner overdraw your checking account occasionally?	1. Yes 2. No	• 2018 • 2021	• Overdraw accounts” = 1 • “No overdrawn accounts” = 2
Have unpaid medical bills	G20: Do you currently have any unpaid bills from a health care or medical service provider (e.g., a hospital, a doctor’s office, or a testing lab) that are past due?	1. Yes 2. No	• 2018 • 2021	• “Yes” = 1 • “No” = 2
Contacted by debt collection	G38: Have you been contacted by a debt collection agency in the past 12 months?	1. Yes 2. No	• 2018 • 2021	• “Yes” = 1 • “No” = 2

Appendix 3.B

PRACTICAL CHECKLIST AND SCORING GUIDE COMPARISON BY DATASET

CONSTRUCT	SOFS QUESTION	NFCS QUESTION	MAXIMUM SCORE: SOFS	MAXIMUM SCORE: NFCS
Stress	Personal Stress	Financial Anxiety	6	6
Emergency Fund	Did Not Have Emergency Fund	Did Not Have Emergency Fund	2	2
Retirement Savings	Did *Not Meet* Goal of Saving for Retirement	Did Not Have Retirement Savings Through Employer	1.5	1.5
Financial Freedom	Did *Not Meet* Goal of Being Debt Free, Except for Mortgage	Was Not Confident in Ability to Achieve Financial Goal Set by Respondent	1	1
Safety Net	Did *Not Meet* Goal of Saving for a Safety Net	Did Not Have Savings Account	1.5	1.5
Credit Card Behavior	Did Not Pay in Full	Did Not Pay in Full	1	1
Spending Habits	Spend More than Income	Spend More than Income	4	4.25
	Provided Money to Family and/or Friends	NA	0.75	0
Strain Due to Finances	Experienced Relationship Problems with Partner Due to Finances	Respondent Perception of Level of Debt	6.5	6
Early Withdrawal from Retirement Savings	Took Money out of Retirement Savings to Pay Living Expenses	Took Loan/Withdrawal from Retirement Savings	4	4
Risky Borrowing Behavior	Used AFS	Frequency of AFS Use	2	4
	Borrowed Money from Family and/or Friends	NA	1	0
		Total Maximum Score:	31.25	31.25

NFCS Checklist Scoring Adjustment Explanations

- **Stress:**
  - Financial anxiety (scale 1–7) proxied for personal stress (scale 1–5).
  - 7 and 5 represent the highest possible values in the original datasets, respectively.
  - SOFS was scored "1" = 0, "2" = 1.5, **"3" = 3**, "4" = 4.5, **"5" = 6.**
  - NFCS was scored "1" = 0, "2" = 1, "3" = 2, **"4" = 3**, "5" = 4, "6" = 5, **"7" = 6.**
  - Conceptually, these points penalize greater levels of stress.
  - *Median* and *maximum* score values remain the same for scale response options.

- **Emergency Fund:**
  - Both SOFS and NFCS datasets measured having an emergency fund. However, SOFS measured the amount of emergency fund savings while NFCS measured having one or not.
  - SOFS was scored by progressively penalizing lower emergency fund savings, with not having an emergency fund receiving the maximum penalty. More specifically, SOFS was scored "At Least 6 Months or More" = 0, "Between 3 to 6 Months" = 1, "Between 1 to 3 Months" = 1.5, "Less than 1 Month" = 1.75, **"No Emergency Savings" = 2.**
  - NFCS was scored 0 (have) or **2 (do not have).**
  - Conceptually, these points penalize not having an emergency fund.
  - Maximum score values remain the same.

- **Retirement Savings:**
  - Not having a retirement savings plan through an employer proxied for not meeting the goal of saving for retirement.
  - Both were scored 0 (have/met) or 1.5 (do not have/not met).
  - Conceptually, these points penalize not saving for retirement.
  - Score values remain the same.

- **Financial Freedom:**
  - Lack of confidence in achieving a financial goal set by respondent proxied for not meeting the goal of being debt free.
  - SOFS was scored as 0 (met) or **1 (not met).**
  - NFCS confidence in achieving a financial goal (scale 1–4) had the following response options: "3" and "4" were levels of being confident while "1" and "2" were levels of not being confident. These were scored as "4" or "3" = 0, "2" = 0.5, **"1" = 1.**
  - Conceptually, these points penalize a lack of financial freedom.
  - Maximum score values remain the same.

- **Safety Net (savings not including emergency fund or retirement):**
  - Analysis of previous datasets suggests that individuals may perceive a safety net as distinct from having an emergency fund. Therefore, not having a savings account proxied for not meeting the goal of saving for a safety net.
  - Both were scored 0 (have/met) or 1.5 (do not have/not met).
  - Conceptually, these points penalize lack of savings (distinct from emergency fund or retirement savings).
  - Score values remain the same.

- **Credit Card Behavior:**
  - Both SOFS and NFCS datasets measured not paying credit card balances in full while capturing different *negative* credit card behavior.
  - SOFS was scored "No credit card" = 0, "Pay in full" = 0, "Pay more than minimum but not in full" = 0.25, **"Pay minimum only" = 1.**
  - NFCS was scored "No credit card" = 0, "Pay in full" = 0, **"Other negative credit card behavior" = 1.**[1]
  - Conceptually, these points penalize not paying credit card balances in full.
  - Maximum score values remain the same.

[1] There were more distinct negative options in NFCS than in SOFS. Therefore, "Other negative credit card behavior" consolidates these response options (e.g., paying minimum only, carrying balance, paying interest and/or fees).

- **Spending Habits:**
  - Both SOFS and NFCS datasets measured spending more than income, but with varying response options.
  - SOFS was scored “Save – plan” = 0, “Save - no plan” = 2.25, “No save – spend same” = 3.75, “No save – spend more” = 4.
  - NFCS was scored “Spend less” = 0, “Spend same” = 2, “Spend more” = 4.25.
  - Exclusive to SOFS: Whether respondents provided unplanned financial support to a family member who did not live with them (Maximum Score: 0.75). To adjust for this in the NFCS scoring, a partial point was reallocated to “Spending more” than income.
  - Conceptually, these points penalize spending that does not go to saving/staying within budget.
  - Maximum score values *are similar (4 compared to 4.25).*

- **Strain Due to Finances:**
  - Subjective level of debt (scale 1–7) proxied for relationship problems due to finances. These were the closest comparable matches in the two datasets for capturing strain due to finances after all other constructs were matched.
  - SOFS was scored “No, no problems” = 0, “Yes, relationship problems” = 6.5.
  - NFCS was scored “1” = 0, “2” = 1, “3” = 2, “4” = 3, “5” = 4, “6” = 5, “7” = 6.
  - Maximum score values *are similar (6.5 compared to 6).*

- **Early Withdrawal from Retirement Savings:**
  - Both SOFS and NFCS datasets measured taking money from retirement savings.
  - Both were scored “No, no withdrawal” = 0, “Yes, retirement withdrawal” = 4.
  - Score values remain the same.

- **Risky Borrowing Behavior**
  - Both SOFS and NFCS datasets measured using AFS. However, SOFS measured whether AFS were used within the past 12 months, whereas while NFCS measured frequency of using AFS with the past 5 years.
  - SOFS was scored 0 (did not use) or 2 (did use).
  - Greater frequency of use in NFCS was progressively penalized, with 4 or more receiving the maximum penalty. NFCS was scored “Never used” = 0, “At least once” = 1, “At least twice” = 2, “At least 3 times” = 3, “4 or more times” = 4.
  - Exclusive to SOFS: Whether respondents borrowed money from family and/or friends to pay bills (Maximum Score: 1). To adjust for this in the NFCS scoring, points from borrowing money from family and/or friends was reallocated to “frequency of AFS use.”
  - Concept penalized: Risky borrowing behavior.
  - Maximum score values *are similar.*