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AN ANALYSIS OF PERSONAL FINANCIAL MANAGEMENT TRAINING WITHIN THE DEPARTMENT OF THE NAVY

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December 2013

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13. ABSTRACT (maximum 200 words)

In today's Navy, budget concerns are a part of everyday life. The Department of the Navy (DON), similar to many other government organizations, is more budget-constrained and faces an uncertain future, to some degree, with fiscal issues. With the real threat of government shutdowns, downsizing threats, furloughs, and possible changes in military retirement, DON personnel must utilize sound Personal Financial Management (PFM) to be prepared to face these future challenges.

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ABSTRACT

In today's Navy, budget concerns are a part of everyday life. The Department of the Navy (DON), similar to many other government organizations, is more budget-constrained and faces an uncertain future, to some degree, with fiscal issues. With the real threat of government shutdowns, downsizing threats, furloughs, and possible changes in military retirement, DON personnel must utilize sound Personal Financial Management (PFM) to be prepared to face these future challenges.

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LIST OF ACRONYMS AND ABBREVIATIONS

CNO	Chief of Naval Operations
DOD	Department of Defense
DON	Department of the Navy
FDIC	Federal Deposit Insurance Corporation
FFI	Financially Fit Index
FFSC	Fleet and Family Support Center
FINRA	Financial Industry Regulatory Authority
FRC	Financial Readiness Campaign
GAO	Government Accountability Office
GMT	General military training
IRA	Individual retirement account
LES	Leave and earnings statement
MFI	Military Family Institute
MWR	Morale, welfare and recreation
NKO	Navy Knowledge Online
NMCRS	Navy-Marine Corps Relief Society
NPRST	Navy Personnel Research, Studies, and Technology
PCS	Permanent change of station
PFM	Personal financial management
SGLI	Servicemembers Group Life Insurance
TAP	Transition Assistance Program
TCCD	Training course control document
TDY	Temporary duty
TSP	Thrift Savings Plan
USN	United States Navy

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I. INTRODUCTION

In his research on workplace financial education, Garman (1999) established that an employee's poor personal financial behaviors can have an adverse effect on job productivity. Mullainathan's (2013) explanation for Garman's premise is scarcity of mind in that individuals focusing on just making ends meet and their personal financial problems keep them from being able to focus on their jobs. A solution to this problem provided by both Garmin and Mullainathan alike is for employers to provide personal financial management training to their employees. While the cost/benefit is unclear at this time, Kristof (1998) estimated that the U.S. Department of Defense loses more than $1 Billion in lost productivity due to financial concerns (as cited in Delafrooz, Paim, Sabri, & Masud, 2010). Brown (1993), as cited by Luther (1997), estimated conservatively that the DON lost productivity equated to approximately $172 million dollars annually.

In 2006, the then Chief of Naval Operations (CNO), Admiral Mike Mullen, was featured in an article by the Navy League of the United States where he stated:

> Where is it good? Where is it not? What must we do to make sure everyone has a common understanding of sound personal finance management? This is where I want the institutional focus to be right now.
>
> Admiral Mike Mullen (Klamper, 2006, p. 1)

In the article, Amy Klamper stated that Admiral Mullen's desire was "to change the equation between commands and Sailors in financial straits" (Klamper, 2006, p. 1). The connection between the financial status of Sailors and Marines and the mission readiness of their services is clear. A military unit or command's ability to meet the challenges and missions of the DON, is referred to as readiness. "DON personnel who do not demonstrate and practice sound PFM risk losing their security clearances, which in turn can have a negative impact on unit readiness. A technical report released by the Military Family Institute in 1997 details that roughly 60% of security clearances revoked were due to ineffective personal finance conduct (Luther et al., 1997, p. 19). Therefore, the need for personal financial management (PFM) training in the DON is important.

This chapter includes PFM background, purpose of the research, the problem, and the research questions. In addition, this chapter discusses the objectives of this research project, the methodology, the benefits and limitations of the study, and the organization of the report.

A. BACKGROUND

For some individuals, personal financial management is a constant issue and struggle. Most people work their whole lives on the goal of achieving a high level of financial fitness. However, there are some sobering statistics regarding personal financial management problems that society faces, which include the following:

- "In 2006, 617,600 Americans filed for bankruptcy" (VSCPA, 2007).
- "As of May 2007, the average American household owed $9,900 in credit card debt, compared to $2,600 in 1989" (VSCPA, 2007).
- "The average American family spends $1.22 for every dollar it earns" (VSCPA, 2007).
- "Only 37 percent of Americans 65 years of age or older are "very confident" they have the knowledge they need for retirement planning" (VSCPA, 2007).
- "11 million adults (5 percent) do not know how much they spend on food, housing, and entertainment, and do not monitor their overall spending" (Yates & Ward, 2012, p. 227).

Lack of sound PFM is a real issue for society, which includes both civilian and military personnel. As a microcosm of society, DON personnel also experience PFM problems that can affect job productivity, known as mission readiness in the DON.

Personnel in the Department of the Navy (DON) are required to complete PFM training during various points in their careers. PFM training for DON personnel is completed upon entry into the service, on an annual basis, commonly referred to as General Military Training (GMT), and at military separation or retirement. However, because finances are personal, the topic of personal finances is a sensitive subject. As DOD budgets continue to shrink and pressure is put on cost savings, it is hard for the DON to justify spending time, money, and resources on providing PFM training to personnel.

The DON takes PFM training seriously for personnel in order to prevent DON personnel from falling into the types of statistics previously detailed. As mentioned earlier, training for DON personnel that is conducted annually is known as GMT. Annual GMT covers a variety of topics that include, but are not limited to, anger management, tobacco use, drug and alcohol consumption, equal opportunity, and personal financial management training. In a 2006 instruction, Vice Admiral J.C. Harvey Jr., Deputy Chief of Naval Operations for Manpower, Personnel, Education and Training stated that, “GMT is an integral part of the Navy Leadership Training Continuum. This training is an important mechanism for emphasizing leadership responsibilities and core values at all levels for both officer and enlisted personnel” (DON Instruction, 2006, p. 1). DON provides certain GMT topics for both officer and enlisted personnel via the Navy Knowledge Online (NKO) website, which contains information and links on all the various required training topics, including PFM.

The DON understands the importance of sound PFM training for DON personnel and its effect on readiness. In this day and age of fiscal conservatism, it is important for DON personnel to demonstrate sound PFM. DON personnel who do not practice sound PFM can increase stress in their personal lives, which ultimately can affect readiness in the Navy (CPPD, 2012a). Therefore, now more than ever, it is vital for the DON to continue to teach the importance of sound PFM, while also building and strengthening PFM training in the future.

B. PURPOSE OF RESEARCH

The purpose of this research was to determine the financial characteristics that lead to the financial fitness of DON personnel, to review the DON PFM training program’s coverage of those financial fitness characteristics, and to analyze the differences between enlisted and officer personnel regarding PFM characteristics. This research will assist the DON leadership in their efforts to provide the necessary resources to improve the financial fitness of DON personnel.

C. PROBLEM

In 2005, the Government Accountability Office (GAO) published a report entitled Military Members: More DOD Actions Needed to Address Servicemembers' Personal Financial Management Issues. In this report, the GAO detailed several deficiencies with PFM training across all of the services (GAO, 2005). Some of the issues cited in the report include: the Department of Defense (DOD) has no "oversight framework" to evaluate the quality of training; some junior personnel are not receiving PFM training; and there is no quality PFM training tracking system for any of the services except for the Army (GAO, 2005). These problems, along with several others, can affect the DON in a variety of different ways specifically with the readiness of the units to which DON personnel are assigned.

Every military unit and command must ensure it is ready to meet the challenges and missions of the DON. To evaluate a unit or command's ability to meet these missions, there is a measurement called "readiness." A command's readiness includes a number of categories such as personnel, maintenance, and combat systems. DON personnel have a huge impact on whether or not a command is ready for deployment. As previously mentioned, DON personnel who do not demonstrate and practice sound PFM risk losing their security clearances, which in turn can have a negative impact on unit readiness. A technical report released by the Military Family Institute in 1997 details that roughly 60% of security clearances revoked were due to ineffective personal finance conduct (Luther et al., 1997, p. 19).

Two DOD buzzwords used to describe DON personnel with sound PFM is "financially fit" and "financial fitness." Both of these terms are the same and will be used interchangeably in this research study. Financially Fit is being used more and more in recent years to describe DON personnel with sound PFM. However, one of the problems with this term is the lack of a standardized definition of what it means to be financially fit. Without a single definition, there does not appear to be an acceptable tool to determine whether or not DON personnel are financially fit. The Navy would benefit from both a standardized definition of the term "financially fit" and a viable method of determining and measuring the financial fitness of DON personnel.

In today's Navy, budget concerns are a part of everyday life. The DON, similar to many other government organizations, is more budget-constrained and faces an uncertain future, to some degree, with fiscal issues. With the real threat of government shutdowns, downsizing threats, furloughs, and possible changes in military retirement, DON personnel must use sound PFM. This is the perfect opportunity and time to re-energize and stress the importance of good personal finance habits to DON personnel.

D. RESEARCH QUESTIONS

This research study will answer three research questions that will lead to a number of recommendations to improve the financial fitness of DON personnel. This study will answer the following three research questions regarding the DON PFM training program:

- What personal financial management characteristics contribute to the financial fitness of DON personnel?
- How does the Navy PFM training program address the PFM characteristics identified in this research study?
- What are the differences between officer and enlisted DON personnel regarding financial fitness characteristics?

E. OBJECTIVES

The following six objectives will be addressed in this research study:

- Answer the three research questions
- Develop a standardized definition of the term "financially fit" to include the financial fitness characteristics
- Build a Financial Fitness Index (FFI) to help establish a measurement tool regarding DON personnel's financial fitness
- Conduct a statistical analysis of previously collected survey data to test the financial fitness characteristics
- Provide recommendations to improve the financial fitness of DON personnel
- Outline areas for further research and follow on PFM studies

F. METHODOLOGY

This research study includes a literature review of articles about the importance of a PFM training program. In addition to the literature review, a definition of the terms "financially fit" and “financial fitness” is presented. The definition of the term financially fit includes financial characteristics developed through research of GAO and RAND reports, peer reviewed articles, and other theses related to PFM. The current PFM training programs used by the DON is reviewed to determine if the PFM training covers any of the financial characteristics defined through the literature review. In addition, data from the 2011 Financial Health Quick Poll survey, which was previously administered by the DON, is used for testing the financial fitness characteristics using correlation analysis and a multiple regression of dichotomous variables. In addition, the methodology chapter describes the methods used and develops the Financial Fitness Index (FFI). The following section addresses the benefits and limitations of this research study.

G. BENEFITS AND LIMITATIONS OF THE STUDY

One benefit of this research study is that it will increase awareness for sound PFM practices for DON personnel. As with most major programs, improving the process and quality of PFM training is always an important goal. Another benefit for this research study is the development of a standardized definition of "financially fit" and provides a method for measuring DON personnel’s financial fitness. Yet another benefit of this research project is to provide recommendations for the DON PFM training program in order to improve the financial fitness of DON personnel and to measure future financial fitness. Finally, this research study will provide insight to the six objectives previously noted.

One of the limitations of this research study is that the 2011 Financial Health Quick Poll survey format did not lend itself well to statistical analysis. Therefore, some of the data was not used in this research study. Additionally, the proposed Financial Fitness Index (FFI) score measurement is not validated. Yet another limitation is that this research study is the inability to determine how much military operational readiness is lost due to the financial problems of DON personnel. Finally, the literature review did not focus on external sources for PFM training from organizations such as Military Saves, Navy-Marine Corps Relief Society (NMCRS), Military One Source, and America Saves because this is not required training for DON personnel.

H. ORGANIZATION OF THE REPORT

This research project consists of five chapters. Chapter I includes the PFM background, purpose of the research, the problem, and the research questions. Chapter I also discusses the objectives of the research project, the methodology, and the benefits and limitations of the study. Chapter II consists of a literature review that details the need for the DON to have a PFM training program and the definition of the term "financially fit." Chapter II also includes the development of the financial fitness characteristics and an in-depth background on PFM training for DON personnel. Chapter III covers the methodology of this research study and a description of the Financial Fitness Index (FFI). Chapter IV provides an analysis of previously collected data from the 2011 Financial Health Quick Poll survey previously administered by Navy Personnel Research, Studies and Technology (NPRST). The analysis of this data helped produce the FFI and answers the three research questions. This FFI could be used in the future as a tool to measure DON personnel's financial fitness. Chapter V, which is the last chapter, includes the summary, conclusion, and areas for further research.

I. SUMMARY

In this chapter the background of PFM, purpose of the research, problem, and the research questions were discussed. Also in this chapter the six objectives of this research report were detailed. The six objectives include the following:

- Answer the three research questions
- Develop a standardized definition of the term "financially fit" to include the financial fitness characteristics
- Build a Financial Fitness Index (FFI) to help establish a measurement tool regarding DON personnel's financial fitness
- Conduct a statistical analysis of previously collected survey data to test the financial fitness characteristics

- Provide recommendations to improve the financial fitness of DON personnel
- Outline areas for further research and follow on PFM studies

In addition, this chapter discussed the methodology, benefits and limitations of this study, and the organization of this report. Chapter II discusses a literature review of the need for DON PFM training programs, the definition of the term "financial fitness," the characteristics of financial fitness, and a review of the current DON PFM training programs.

II. LITERATURE REVIEW

A. INTRODUCTION

During the early-to-mid 2000's, personal financial management (PFM) training became a very hot topic and was most likely magnified with the economic collapse in 2008. Yet, despite recent furloughs and the government shutdown in early October 2013, there are individuals who feel that the military has no business teaching subjects about PFM. Several questions come to mind with this type of thinking, such as: Why is the DON concerned about personnel personal financial management? Is it the military's job to teach adults how to properly manage their finances?

This chapter consists of a literature review regarding the need for PFM training, GAO reports, RAND reports, and dangerous financial practices. The financial fitness background, the financial fitness definition, positive and negative financial fitness characteristics, as well as the current DON PFM training program will be presented. The DON PFM training program includes training for personnel who have just entered the service, training on an annual basis, and the training for those personnel about to retire or separate from the DON. The following section will discuss the need for financial management training.

B. THE NEED FOR PERSONAL FINANCIAL MANAGEMENT TRAINING

Personal financial management for DON personnel has been a topic of discussion in the military for decades. While little data has been collected by the Department of Defense, during this time, the individual services have collected their own data. Financial assistance provided to DON personnel has significantly increased over the years as noted in the 1983 Navy Relief Society (NRS) annual report:

> Between 1976 and 1983, the financial assistance provided increased from 5.2 million to 19.2 million, an increase of 369% in five years. The increase from 1982 to 1983 was 275%, with the contributing factor being an increased in clients seeking assistance (as cited in Hahndorf & Riggio, 1988, p. 11).

The Navy Relief Society, now known as the Navy-Marine Corps Relief Society (NMCRS), provides financial assistance in the form of interest free loans and grants for expenses such as basic living expenses, transportation, car repairs, and family emergencies. In a keynote speech Lieutenant General Bronars stated that, “The Army and Air Force statistics show a comparable trend. The Army Emergency Relief Society experienced a 38% increase in financial assistance levels in 1982 compared to 1981, and the Air Force Aid Society experienced a 25% increase” (as cited in Hahndorf & Riggio, 1988, p. 11). These percentage increases alarmed the department service chiefs and caused significant changes across the DoD.

As an example of these changes, the then Chief of Naval Operations (CNO), Admiral Frank Kelso, implemented a PFM education, training, and counseling program in the early 1990’s. According to a report by the Military Family Institute (MFI), "The goals of this program were to emphasize personal financial responsibility and accountability by providing basic principles and practices of sound money management, as well as reduce the impact and cost..." (Luther et al., 1997, p. iii). However, these programs did not fix the problem. They simply brought to light the fact that DON personnel were experiencing financial problems which can affect combat readiness.

Despite receiving several significant pay increases over the past decade, DON personnel continued to experience personal financial problems. In May of 2003, the Under Secretary of Defense for Personnel Readiness, David Chu, and the Under Secretary of the Treasury, Peter Fisher, announced the government’s intent to launch the military's first Financial Readiness Campaign (FRC) (Department of Defense, 2003). Similar to the PFM program of the 1990s, the desired effect and audience for the FRC was to stress personal financial responsibility. A DoD press release noted the following: "The campaign is directed toward junior enlisted servicemembers who are most at risk and spouses of servicemembers who have not received the personal finance information that is part of military training" (Department of Defense, 2003).

Despite the high visibility of providing effective PFM training in order for DON personnel to have sound PFM, the financial readiness campaign proved to be a challenge for the DoD. The primary purpose of this campaign was to increase the overall awareness of personal financial management issues for DoD personnel (Department of Defense, 2003). The campaign did this by focusing on eight pillars of personal financial management to include good credit, financial stability, routine savings, thrift savings plan (TSP), low interest loans, Morale, Welfare and Recreation (MWR), security clearance, and Servicemembers Group Life Insurance (SGLI) (Air Force Personnel Center, 2013). All eight pillars are important factors affecting PFM and military combat readiness, and several of these factors are integrated into the definition of "financially fit."

Even after the PFM program had been in place for a few years, a study conducted by the Military Family Institute for the Navy in 1993 also showed little improvement in DON personnel sound PFM. The study showed that more than 123,000 letters of indebtedness were processed, and an estimated 35,000 DON personnel had their wages garnished (Luther et al., 1997). Under the assumption that all services' numbers are roughly similar, this may indicate that the DoD as a whole processed roughly 500,000 letters of indebtedness and nearly 140,000 service members had their wages garnished. Translating or converting these numbers into monetary figures, as discussed next, justifies the DON spending time, money, and resources to invest in a PFM training program.

The monetary figures that were calculated by the study were not in the millions of dollars, they were in the hundreds of millions of dollars. In his study, Brown (1993) stated the following:

> A formula developed from civilian research which assumes that 10% of service members are experiencing financial difficulties yields a conservative estimate of $172 million annually in overall lost productivity costs to the Navy (as cited in Luther et al., 1997, p. iv).

The report also stated that, "Direct costs alone are conservatively estimated at $36 million, or 891 man years" (Luther et al., 1997, p. iv). These numbers are specific to the DON and very conservative. If all services average the same numbers, that may indicate that nearly $700 million dollars are wasted in lost productivity due to financial problems that DoD personnel experience.

The number of dollars and resources being used to fix PFM problems among DON personnel gives credibility to the severity of this issue and the need for various PFM training programs. Other sources highlighting issues regarding the PFM program are GAO reports and RAND reports, which are discussed next.

C. GAO AND RAND REPORTS

The GAO and RAND reports on the subject of PFM training offer insight into why the DoD and the DON must continue to strengthen and promote PFM training for personnel.

1. GAO Reports

Three specific GAO reports deal with personal financial management issues for DoD and DON personnel. The first, and most noteworthy, GAO report was written in April of 2005 and is entitled, Military Personnel: More DoD Actions Needed to Address Service Members Personal Financial Management Issues (GAO, 2005). This particular GAO report makes two important points about PFM training. The first point is not only valid but also deals with the amount of training received by DoD junior personnel. As stated in the report, "some junior enlisted servicemembers are not receiving PFM training that is required in service regulations" (GAO, 2005, p. i). According to the GAO, the Department of Defense does not have the proper "oversight framework" for PFM training (GAO, 2005, p. 5). The proper oversight framework is essential to help provide adequate PFM training for DoD personnel. There are also two other GAO reports worth noting in this research study.

The second GAO report is entitled, Military Personnel: DoD Has Taken Steps to Address Servicemembers' Financial Needs, but Additional Effort Is Warranted (GAO, 2006). In this report, the GAO details the actions taken by the DoD to improve the PFM training programs to include providing PFM training as well as free legal assistance for financial documents (GAO, 2006).

The third GAO report from 2007 is entitled, Military Personnel: DoD's Predatory Lending Report Addressed Mandated Issues, but Support Is Limited for Some Findings and Recommendations (GAO 2007). In this report, the GAO states that the DoD determined that predatory lending is a reality for military personnel and efforts are being made by the DoD to ensure personnel are aware of these practices (GAO, 2007). The RAND institute also has important information regarding the DON PFM training, which will be discussed next.

2. RAND Reports

A useful RAND report regarding PFM training was written by Richard Buddin and D. Phoung Do in 2002 entitled, Assessing the Personal Financial Problems of Junior Enlisted Personnel. Similar to the GAO report, this particular RAND report offers insights into the PFM of personnel. The authors discuss three important and valid points relating to personal financial matters of junior enlisted personnel. Often, the hardest step for an organization to take is to admit there is a problem. First, and most importantly, the RAND report recognizes that a significant number of junior members suffer from financial problems (Buddin & Phuong Do, 2002). Another vital point is that junior members of the military have more financial problems than their civilian counterparts. This is another important reason for the need for PFM training. The last vital point from this report is that certain unique aspects of military life, such as deployments, make DON personnel prone to financial problems (Buddin & Phuong Do, 2002).

Another RAND report that helps establish the need for PFM training is a document briefing entitled, Financial Management Problems among Enlisted Personnel (Tiemeyer, Wardynski & Buddin, 1999). This report details the factors leading to financial problems for enlisted personnel as well the frequency that these problems occur and the various types of help personnel are receiving. One of the findings in this report includes the fact that problems with bills are not uncommon; however, serious financial problems are common. Another finding in this report is that there are a number of risk factors, such as age and education, that can lead to financial problems. The sources of help personnel are seeking out are friends and family, the relief society, and personal financial classes. Research showed that one-fifth of those personnel with problems received no help at all. (Tiemeyer, Wardynski & Buddin, 1999)

The GAO and RAND reports provide insight into the need for the military to continue PFM training for DON personnel. There are other reports that were identified that help establish the need for PFM training for personnel, which are addressed in the next section.

D. DANGEROUS FINANCIAL PRACTICES LITERATURE

A major part of PFM training deals with teaching DON personnel the dangers that exist in the world of finances. These include, but are not limited to, unsuitable life insurance policies, payday loans, identity theft, and predatory lending. The DON addresses these topics within the PFM training program. The following section discusses the dangerous financial practices which are addressed in various literature review sources.

1. Unsuitable Life Insurance Policies

A report entitled, Additional Actions Needed to Mitigate Risks of Unsuitable Life Insurance Sales to Junior Enlisted Service Members, found that there are still unsuitable life insurance policies being sold to DoD personnel due to both improper insurance agent practices and a lack of DoD base solicitation policy and guidance being enforced (DoD Inspector General, 2011). The recommendations of this IG report included additional financial training for personnel (DoD Inspector General, 2011).

2. Payday Loans

Another report important for DON personnel deals with payday loans and is entitled, In Harm's Way? Payday Loan Access and Military Personnel Performance (Carrel & Zinman, 2013). In the report, Carrel and Zinman (2013) detail the problems of payday loans and conclude that payday loans do have negative effects on both military readiness and job performance.

3. Identity Theft

A report from 2009 entitled, Identity Theft & Protecting Service Member's Social Security Numbers, highlights the risks associated with identity theft, and the methods the

DoD has taken to combat this problem (Bean, 2009). According to Bean (2009), the DoD is committed to reducing personnel's risk of identity theft.

4. Predatory Lending

A DoD study entitled, Report on Predatory Lending Practices Directed at Members of the Armed Forces and Their Dependents (DoD, 2006), provides information about the damage predatory lending can create for personnel. Predatory lending practices are prevalent and target military personnel through a variety of techniques such as base proximity and marketing techniques (DoD, 2006). To combat this problem, the DoD created an education program for personnel and their families to teach them how to manage finances and understand the dangers of credit. This report discussed the dissemination of basic information on PFM and stated that "in addition to courses and educational materials, the Military Services delivered 960 news articles in local base papers and base bulletins, and 157 memos from command on the topic of predatory lending" (DoD, 2006, p. 23).

With the need for a DON PFM training program established, the next step in this research study is to define the term "financial fitness" and to develop the financial characteristics that help define this term. A clear definition of this term will be beneficial for the DON in order to determine if personnel are receiving the appropriate training. The following section will discuss the background of financial fitness.

E. FINANCIAL FITNESS BACKGROUND

In a press release dated May 8, 2003, the Office of the Assistant Secretary of Defense (Public Affairs) stated,

> The financial well-being of the force is a significant readiness issue… The Financial Readiness Campaign is expected to continue over several years, with the department refining the approach and the partnerships over time. The overall objective will remain the same, to increase personal readiness by reducing the stressors related to poor financial habits. This campaign will seek to increase awareness; increase savings and reduce dependence on credit; and increase protection against predatory practices (DoD, 2003).

The Navy has been combating the PFM issues of its personnel since the early 1990's. During this time, the military and civilian sectors have both started using the term financial fitness or financially fit. However, the clarity of this term is one of the major problems facing the DON.

Is the Navy providing the right amount and the right type of PFM training to DON personnel? Answering this question first requires a definition of the term financial fitness. The term "financially fit," is the buzz term for financial fitness and has been talked about by leaders in the pentagon and financial professionals in the civilian sector. Financially Fit is the descriptive term that is used to describe the financial fitness of individuals. As previously mentioned, the terms financial fitness and financially fit mean the same thing and will be used interchangeably in this research study. These terms are used by both civilian and military personnel to talk about the financial well-being of DON personnel. However, without a clear definition, how can it be determined if DON personnel are doing the right things regarding PFM? In addition, how can the Navy know if it is even addressing the right problems regarding PFM?

When it comes to physical fitness, there are many different ways to workout. A person could do a cardio workout, a strength workout, or even a muscle-building workout. Within each workout, there are many different things on which to focus. A person could focus on many different muscles or just one individual muscle group. The workout session could involve weights, resistance bands, swimming, running, or a mixture of any of them. Therefore, as related to financial fitness, if physical fitness can mean so many different things, financial fitness could also mean different things to different people. The next section discusses how the term is defined by a couple of organizations and examines the relevance to DON personnel. This will help to determine an individual's fitness level when it comes to finances and help the DON address personal financial fitness problems that affect command readiness and that cost millions of dollars in time and resources.

F. FINANCIAL FITNESS DEFINITION

This section discusses the lack of clarity regarding financial fitness and will provide a definition of financial fitness. The Financial Industry Regulatory Authority (FINRA) "…is the largest independent regulator for all security firms doing business in the United States" (FINRA, 2013). A study conducted by Florida State University (FSU), sponsored by FINRA, lists four steps that will help increase financial fitness:

- Create an emergency fund
- Set up an Independent Retirement Account (IRA)
- Pay your monthly credit card balances in full
- Talk about finances with your partner (FSU, n.d.)

However, simply doing these four steps does not necessarily make someone financially fit. These four steps also coincide with the Six Simple Strategies of Financial Fitness advocated by FINRA:

- Talk about your finances with your partner
- Talk to your employer
- Estimate how much money you will need for retirement
- Forecast what you think you will have as you near retirement
- Maximize your savings
- Minimize debt and interest payments (Arthur & Rutherford, 2011)

These strategies and steps set the groundwork for the formulation of a clear definition of financial fitness.

The MilitarySaves.org website is another resource for financial fitness information. Andia Dinesen, an Accredited Financial Counselor (AFC) and Military Saves Coordinator for MilitarySaves.org, lists four steps to improve an individual's Financial Fitness:

- Set a spending plan
- Create an emergency fund
- Formulate a debt repayment plan
- Save for retirement (Dinesen, 2013)

The only step listed by Dinesen that is not listed by FINRA is to set up a spending plan. Conversely, the only step that is not listed by Dinesen that is listed by FINRA is to talk about finances with your partner. Both of these paths seem fairly logical and quite simple. However, does the mere completion of four steps make one financially fit?

Determining the financial fitness of an individual or a family is not quite as easy as merely asking questions or completing four tasks. According to Bernstein, 2004, "Unfortunately, few validated financial management behavioral scales exist" (as cited in Dew & Xiao, 2011). The FSU study used fifteen questions to determine an individual's or family's financial fitness. The questions in the FSU Financial Fitness Test as shown in Table 1 help determine if a family is implementing or neglecting the strategies most applicable to financial fitness.

Take the Financial Fitness test!					
	Instructions: i. Decide how often you do each of the activities described below; write your score in to the right. ii. Then add all your scores and write in your total score below. iii. Next, see what your total score means for your Financial Fitness using the How Well Did You Do? box, located over the page.	Never	Sometimes	Often	**Write your score here**
1	My partner and I discuss our household finances and investments	1	2	3	
2	I actively share any new information and knowledge I gain about personal finance and investing with my partner	1	2	3	
3	My partner actively shares new information and knowledge about personal finance and investing he/she gains with me	1	2	3	
4	I actively seek out personal finance and investing related information from my employer	1	2	3	
5	My partner actively seeks out personal finance and investing related information from his/her employer	1	2	3	
6	I (or my partner and I) work out how much my partner and I will need for retirement	1	2	3	

7	I (or my partner and I) forecast how much my partner and I will have in retirement given our current savings and retirement plans	1	2	3	
8	I save something from my paycheck into a savings or retirement account	1	2	3	
9	My partner saves something from his/her paycheck into a savings or retirement account	1	2	3	
10	I (or my partner and I) save up to buy expensive items to avoid borrowing too much	1	2	3	
11	I (or my partner and I) pay the household bills on time	1	2	3	
12	I pay my monthly credit card balances in full	1	2	3	
13	My partner pays his/her monthly credit card balances in full	1	2	3	
14	When I (or my partner and I) pay the mortgage, I (or we) pay a little extra towards the mortgage principal	1	2	3	
15	I (or my partner and I) have an emergency fund; that is, some savings that are not touched except in the case of financial emergencies	No = 1		Yes = 3	
	Write in your total your score here				

Table 1. FSU Financial Fitness Test (from Eccles, Goldsmith, & Ward, n.d.)

After the questions are answered, the survey participants add up their score to determine their financial fitness level. The fitness levels range from Poor (less than 25), to Baseline (between 25 and 30), to Good (between 31 and 36) and Very Good (more than 36). However, not all of these questions would pertain to or be applicable to all personnel in the DON. For example, some DON personnel do not have a spouse, while others do not have a mortgage. Even though the survey could provide an effective measurement of financial fitness, the questions could be broader in nature. Therefore, this particular survey tool would not be useful for DON personnel.

Based on the literature review, positive and negative characteristics that positively or negatively affect financial fitness were developed, which are discussed in the next section.

G. FINANCIAL FITNESS CHARACTERISTICS

Based on the literature review regarding PFM, seven positive characteristics and seven negative characteristics of PFM were developed and are discussed in the following section. The literature that was reviewed to arrive at the development of the 14 financial fitness characteristics included the FRC campaign, GAO reports, RAND reports, peer reviewed scholarly articles, and private sector personal financial management publications. The following section discusses the seven positive characteristics in more detail.

1. Positive Characteristics

Positive characteristics are those characteristics that positively contribute to an individual's financial fitness. The term financially fitness encompasses a multitude of factors. Simply stated, financially fit individuals live within their means, pay off debt obligations on time or early, and have developed a habit of saving money. There are seven positive financial characteristics which include regular financial advice, bank account management, investment planning, retirement savings, routine savings, funded emergency fund, and a budgeting/spending plan.

a. Regular Financial Advice

Financial advice can sometimes be misinterpreted or misconstrued as product sales or marketing. The financial advice that this project speaks of is unbiased with no agenda for product sales and has the client, in this case, the individual's (DON personnel) needs as the priority or driver for the advice. Research by Yates and Ward (2012) states that 43% of generation Y firmly believes that they could benefit from some form of advice to everyday financial questions. DON personnel could benefit greatly from financial advice, especially considering the fact that many counselors available to DON personnel are free of charge. According to Collins (2012):

> A lack of financial literacy can hamper the ability of individuals to make well-informed financial decisions. For people who exhibit problems with financial decision making, financial advice has the potential to serve as a substitute for financial knowledge and capability (p. 307).

Financial advice can be relevant to many areas of finance such as: retirement, savings, budgeting, taxes, or even bank account management.

b. Bank Account Management

One aspect of particular importance to DON personnel is the number of bank accounts that individuals have open. According to Marotta (2011):

> To build real wealth, you need specific wealth management tools. One of these is opening the right accounts and using them correctly. Most families have less than half of the accounts they really need, and young newlyweds often only have a checking account (p. 6).

Multiple accounts can be used for many different reasons. One savings account can be used for a rainy day fund, while another savings account could be used to save for a car purchase. A checking account could be used to pay the monthly bills, while another checking account could be used for daily living expenses. It is of special importance for members with significant others to split accounts. The family member that stays at home can use one account to continue paying the bills. The DON personnel that goes on deployment or Temporary Duty (TDY) can use funds from another account, thus reducing the possibility of over-extending any of the accounts because of multiple withdrawals from either the service member or the spouse.

c. Investment Planning

There are many reasons to do investment planning. Marotta (2011) believes that investment planning is more than just the use of qualified retirement accounts like IRA's and 401K's. In order to build wealth, Marotta (2011) also suggests that individuals save and invest in addition to having these types of tax-advantaged retirement accounts. Individual Retirement Accounts (IRAs) and the Thrift Savings Plan (TSP) have limits set on the amount that can be contributed yearly. If DON personnel are capable of maxing out the contributions to one or both accounts, it may indicate the importance that they place on investing. Another reason to have multiple accounts is to distribute the amount of risk across to individual accounts. One account could be used to buy government securities with minimal risk, while another account could be used for investments with more risk. These are signs of disciplined investing.

d. Retirement Savings

Retirement accounts show forward-thinking by DON personnel. The one thing an investor can never get back is time. Time is truly the most important part of the equation. Brigham, Gapenski & Ehrhardt (1999) concluded that, "In fact, of all the concepts used in finance, none is more important than the time value of money" (p. 236). Despite the significance of time on money, in their research, Yates and Ward state that "One-third of adults do not put any part of their household income toward retirement. Only 7% of adults save more than 20% of their income for retirement each year" (Yates and Ward, 2012, p. 227). Retirement accounts also help the individual investor to stay the course since there are generally penalties for early withdrawals. This is not true for all retirement accounts, but certainly for some. Retirement accounts also vary with the timing of the tax advantage. Certain retirement accounts give the DON personnel tax advantages for the present, while other retirement accounts have tax advantages in the future. The earlier DON personnel open a retirement account, the more years they have for the compounding interest to work in their favor.

e. Routine Savings

According to Anong and Devany (2010), routine savings are important because they directly affect a family's level of living, emergency reserves, and the ability to achieve financial goals (as cited in Fisher & Anong, 2012, p. 63). The savings could be for a future expenditure or could be for a rainy day fund. Yates and Ward (2012) found that 48% of Generation Y have no savings at all, and of those, 25% would charge an emergency expense to a credit card or take out a loan to fund the expense. When DON personnel save for an item that they cannot afford, it may indicate that they are living within their means. The DON personnel will also save money by not having to pay interest on a loan for the item they bought with cash regardless of whether the loan is from a bank or a credit card company. Routine savings is one of the easiest ways for DON personnel to pay themselves first and to live within their means.

f. Funded Emergency Fund

Emergency funds are integral to anyone's finances. Remember the old adage: whatever can go wrong, will go wrong. Since there is no prior knowledge of what will happen and how much it will cost, the standard emergency fund required is equivalent to three to six months of expenses, according to Dave Ramsey (2013) a personal financial management guru. This would allow DON Personnel the flexibility to weather the loss of income by a spouse or significant other. Furthermore, this can be done without depleting the savings account or the retirement account. Even with all of the benefits from having an emergency fund, unfortunately, most individuals do not always establish an emergency fund. A survey by Bankrate (2004) showed that, “71% of 1,000 respondents said that keeping an emergency fund is “very important” but just 44% said they always have one on hand” (as cited by O’Neill and Xiao, 2012, p. 35). An emergency fund would allow DON personnel to have the peace of mind that, if anything unforeseen comes up, it will not have a drastic impact on their financial well-being. This would allow the DON personnel to worry about the things that they can control (e.g., work, home life, personal improvement) and not the things that are beyond their control in the event of emergencies.

g. Budgeting/Spending Plan

A spending plan is vital to DON Personnel who desire to maintain control of their finances. In their research, Beutler and Sahlberg (1980) stated that “Entire chapters are devoted to detailed discussion of the mechanics for formulating plans. Written plans covering a time span of up to one year are often recommended.” (p. 480). The spending plans would help DON personnel to establish expectations for their monthly or even yearly cash outflow. A spending plan, sometimes improperly referred to as a budget, is a major factor in an individual’s financial fitness, as it lays out the game plan or objective for the DON personnel’s money. Without a plan or a set of limits, DON personnel may succumb to frivolous spending. It also makes it easier to keep track of spending, especially when it comes to going out to eat or grocery shopping. It is important to note that a spending plan is part of a budget, but they are not the same thing.

According to the Duke University personal finance website, monthly budgeting is:

> An invaluable tool to help you prioritize your spending and manage your money—no matter how much or how little you have. Planning and monitoring your budget will help you identify wasteful expenditures, adapt quickly as your financial situation changes, and achieve your financial goals (Personal Finance@Duke, 2012).

Even DON personnel with a debt problem could find their way out of debt quickly by using and following a written budget. However, DON personnel need not be in debt to enjoy the benefits of a budget. A weekly or monthly budget provides instant feedback as DON personnel work through it, allowing them to check things off and get a feeling of accomplishment. The instant feedback can help the DON personnel stay motivated about their budget, thus keeping them within the constraints of that budget. In addition to the positive characteristics, there are also negative characteristics that affect financial fitness as well.

2. Negative Characteristics

Negative characteristics are those characteristics that negatively contribute to an individual's financial fitness. Based on the literature review, there are seven negative characteristics that were developed which include acquired payday loan, skipped payments, misusage of credit cards, accounts in collections, recent foreclosure or bankruptcy, increased debt, and recently denied credit. These characteristics can have a negative impact on the personal lives and how DON personnel perform at work. These seven negative characteristics will be discussed in detail in the following section.

a. Acquired Payday Loan

Melzer (2011) defines payday loans as, "small, high interest rate loans that constitute the marginal source of credit for many high risk borrowers" (p. 517). DON personnel that require payday loans are not likely to have an emergency fund or savings account, which puts them in a difficult position should something unexpected arise. In 2007, the GAO issued a report on predatory lending, which encompasses payday loans. According to the report, "predatory lending" has no precise definition, but some practices, such as charging excessive fees or interest rates and repeatedly refinancing loans without economic gain for the borrower, are widely regarded as predatory. The GAO report explains payday loans as follows:

> …according to the Federal Deposit Insurance Corporation (FDIC), [payday loans] are small, short-term loans that borrowers promise to repay out of their next paycheck or deposit of funds. These loans typically have high fees and are often rolled over repeatedly, which can make the cost of borrowing—expressed as an annual percentage rate—extremely high (GAO, 2007, p. 11).

Unfortunately, a number of DON personnel would probably prefer to go to a payday loan center and pay high interest rates rather than ask for help from their local command. This can easily propagate and exacerbate the problem should the member have more financial issues. Melzer (2011) suggest that payday loans do not alleviate economic hardship; rather, they could lead to further difficulties in paying rent, mortgage, and other utility bills.

b. Skipped Payment

Skipping a payment or bouncing a check is also a negative characteristic, although the reasons behind it can vary. DON personnel could be experiencing financial difficulties because of frivolous spending or due to making simple mistakes in the checkbook or losing track of the date. DON personnel could be on deployment and the spouse could be at home without communication, which could easily result in both withdrawing from the same account, resulting in an overdraft situation. Another reason for skipping a payment could be due to the spouse assuming that the other person has already set up the automatic payment of a particular bill. So, while writing a bad check or skipping a payment may not be an act of ill will, it still speaks to the lack of attention that the DON personnel give to their finances.

c. Misusage of Credit Cards

Another negative characteristic is the misusage of credit cards, which also may indicate the level of effort DON personnel put into their financial fitness. Payments can be missed because of an oversight during a move or because the primary person controlling the finances leaves and goes on deployment. Credit cards can also be misused for cash advances or to pay off debt from another card or a bill. Lea, Webley and Levine (1993) contends that “the use of these types of credit can eventually become a self-sustaining ‘culture of indebtedness’” (as cited in Autio, Wilska, Kaartinen, & Lahteenmaa, 2009, p. 408). Either way, how DON personnel choose to remedy the financial problem or situation they find themselves in will likely be the biggest factor that will affect their financial future.

d. Accounts in Collections

Receiving a call from a collector generally means that the DON personnel are avoiding the problem, simply hoping it will just disappear. In fact, by the time the situation reaches this level, the service member’s credit report may already be affected, as creditors will not normally call until the account is in a delinquent status. According to Sweet (n.d.) from one of the three credit reporting agencies, delinquencies (30-180 days) can remain on credit reports for a period of seven years from the date of the initial missed payment. Not only does this affect the member, but the Navy has to deal with the effects of the member’s indebtedness. The command may have to run a Letter of Indebtedness (LOI) to try to correct the problem and they also have to deal with DON personnel that may or may not be able to focus on their work. In light of the many dangerous things DON personnel could be asked to do, this could lead to serious safety hazards with huge consequences and loss of dollars from accidents and productivity losses. According to Luther, DON personnel that have poor productivity due to personal financial management issues cost the Navy between $172 million to $258 million (Luther et al., 1997)

e. Recent Foreclosure or Bankruptcy

Foreclosure or bankruptcy is a negative characteristic that stays with DON personnel well after the actual filing or event has occurred. According to Axelson and Hatchings (2013), approximately 33% of DON personnel are required by orders to Permanently Change Station (PCS) each year. This poses challenges to DON personnel requiring them to, on short notice, sell their home and move, which could likely result in taking a loss on the home sale and possibly ending in foreclosure. Either occurrence can have huge effects on the member's life and credit report. Not only will the member have a mark identifying the foreclosure or bankruptcy on their credit report, but all future attempts to borrow money may be affected by a higher interest rate. So the impact is not just on borrowing power, but also on many other aspects of the service member's life.

f. Increased Debt

While the mere numbers of credit card accounts or lines of credit open to DON personnel is not a negative characteristic, the increased debt that is likely to come with it is a negative characteristic. Although some people would say that credit is not required, for most people, it is essential or at least helpful for everyday life. However, having too many open lines of credit or multiple credit cards is frowned upon by most lenders. The number of credit cards is not the negative factor; it is the total dollar amount of credit open to the borrower and the use of that credit that are the main factors. Yates and Ward (2012) suggest that roughly 11 million people have consumer credit card debt in excess of $10,000 or more. This could place DON personnel in an extremely bad position making them possible targets for espionage.

g. Recently Denied Credit

Being denied credit means that the bank or credit card company has little to no faith in the individual's ability to repay the loan or the credit. With this negative characteristic come many negative emotional feelings for those who experience being denied credit. Jennet, Brostoff, Malheiros & Sasse (2012) found that, "Respondents tended to use emotive words such as 'frustrated', 'embarrassed', 'angry', 'depressed', 'poor', 'rejected', 'unworthy' and 'second class' to describe their experiences" (p. 552). The emotional drag of being denied credit can have impacts on DON personnel, especially those who work in high risk, high danger jobs.

Positive Characteristics	Negative Characteristics
Regular Financial Advice	Increased Debt
Investment Planning	Acquired Payday Loans
Retirement Savings	Misusage of Credit Cards
Routine Savings	Recently Denied Credit
Funded Emergency Fund	Accounts in Collections
Budgeting/Spending Plan	Skipped Payment
Bank Account Management	Recent Foreclosure or Bankruptcy

Table 2. Financial Fitness Characteristics

Table 2 illustrates the 14 financial fitness characteristics. The following section will provide a summary of the literature review regarding financial fitness.

H. FINANCIAL FITNESS SUMMARY

Most personnel are likely to show a mix of both the positive and negative characteristics. However, regarding the financial fitness of DON personnel, the ideal member will have all positive characteristics and no negative characteristics. Individuals with ineffective financial fitness can have a direct impact on mission readiness by interfering with the security clearances of military members. A study completed by the Military Family Institute at Marywood University says that, “approximately 60% of service members’ security clearances revoked were due to poor financial behavior” (Luther, et al., 1997, p. 14). Table 3 details this phenomenon.

SECURITY CLEARANCES REVOKED			
Year	Total #	# for Financial Reasons	(%)
1991	1,020	650	63.72
1992	800	453	56.62
1993	600	382	63.66
1994	350	382	52.28
1995	300	187	62.33
Average			59.72

Table 3. Security Clearances Revoked (from Luther et al., 1997)

The revoked security clearance has a direct impact on the Navy and DON personnel. DON personnel with revoked clearances are unlikely to be able to continue doing the job for which they were hired. This is not only detrimental to each individual, but to the command where the individual is stationed, since it will have a direct impact on the command's operational readiness. With an understanding of the term financial fitness and the 14 financial fitness characteristics, it is important to know if current DON personal financial management training addresses these characteristics. The following section will provide a discussion of the relationship between the current DON PFM training programs and the 14 financial fitness characteristics.

I. DON PFM TRAINING AND THE RELATIONSHIP WITH THE 14 CHARACTERISTICS

The previous section defined the 14 financial fitness characteristics, thus establishing a baseline for what is required in financial fitness training. The DON PFM training program consists of multiple topics that include but are not limited to the 14 financial fitness characteristics. This section will illustrate the similarities and differences between the DON PFM training program and the 14 financial fitness characteristics.

The Navy PFM training program has grown more robust over the years. There is a large amount of training materials regarding PFM for DON personnel to use. The three instances where PFM training is completed are when personnel enter the service, during an annual training requirement called GMT, and during the final training for those members who are either separating or retiring from the service. As mentioned earlier, one of the most commonly used mediums for PFM training is a website called Navy Knowledge Online. The NKO site has an entire website dedicated to PFM training and contains numerous PFM tools and forums dedicated to helping all DON personnel.

The following section will discuss the current PFM training conducted by the DON that relates to the authors' definition of the term "financial fitness." Specifically, this section will show how the current DON training addresses the 14 financial characteristics that lead to financial fitness.

1. Entry PFM Training

One of the first times DON personnel receive PFM training is when they initially join the service. The relatively new enlisted recruits receive an extensive set of modules about both personal financial management and predatory lending. According to the PFM Training Course Control Document (TCCD), the mission of this initial training for personnel is simple:

> The Navy Personal Financial Management (PFM) program exists to provide education, information and referral to Navy personnel in order to increase personal, family and operational readiness. This course provides the fundamentals of personal financial management to include spending plans, account management, credit, consumer awareness, car buying, insurance, TSP, government travel, and financial planning. For enlisted personnel after completion of Recruit Training, and prior to commencement of "A" school training. (CPPD, 2012b, p. 5)

The following section provides a breakdown of the ten units detailed in this PFM course and a brief summary of what is contained in each module according to the PFM lesson plan (CPPD, 2012a).

a. Unit One: Military Pay System

Unit One details a description of the pay structure for military personnel and includes a number of associated lessons. These lessons include descriptions of military ethics, pay, and Leave and Earnings Statements (LES) (CPPD, 2012a). For military members, it is very important to understand the many intricacies of the military pay system as well as the various entitlements that military personnel are allotted. It is also important to ensure that military personnel know how to read and understand an LES, which is the document that details their military pay. This might not be a financial fitness characteristic but this unit builds a foundation for DON personnel to be financially fit.

b. Unit Two: Spending Plan

Unit Two is about building a plan, specifically an expenditure plan and is titled Spending Plan (CPPD, 2012a). It is important to teach DON personnel the importance of developing a budget and a monthly plan to ensure that their outgoing expenditures do not exceed their incoming revenues. This unit relates directly to the budgeting and spending plan financial fitness characteristic.

c. Unit Three: Account Basics

Unit Three details the basics of Banking 101 and includes the differences in various types of checking and savings accounts and ways to avoid over-drafting bank accounts (CPPD, 2012a). This is another important subject to brief to DON personnel to explain the importance of banking fundamentals. The account basics unit is another training unit that addresses two of the financial fitness characteristics, bank account management and emergency funds.

d. Unit Four: Essentials of Credit

Unit Four describes the basics of understanding the idea of credit and, in general, the importance of maintaining both healthy credit and a healthy credit score (CPPD, 2012a). Understanding the basics of credit is vital for DON personnel to maintain healthy financial fitness. Also, credit report issues and credit mistakes are a common poor choice that young DON personnel could potentially make leading to devastating financial consequences. The topics that unit four covers can be tied to four negative financial fitness characteristic to include missing a credit payment, credit card usage, denied credit, and accounts in collection.

e. Unit Five: Consumer Awareness

Unit Five discusses the idea of consumer awareness and how to protect an individual from identify theft and financial scams (CPPD, 2012a). This topic is important because it provides DON personnel with the knowledge of how to avoid being a victim of scams and financial fraud. This unit directly relates to two of the financial fitness characteristics, payday loans and increased debt.

f. Unit Six: Car Buying

Unit Six of the PFM training discusses buying vehicles and the importance of understanding the facts about making a major purchase like an automobile (CPPD, 2012a). Another common trap for young DON personnel is buying an automobile without all the important information such as interest rates and loan types. This is directly related to the accounts in collections financial fitness characteristic.

g. Unit Seven: Insurance Needs

Unit Seven is about understanding insurance and, specifically, teaching personnel the different types of insurance and how DON personnel can avoid insurance scams (CPPD, 2012a). It is important for DON personnel to know that insurance scams exist in the financial world. Although this is an important subject, insurance needs does not directly relate to any of the 14 financial fitness characteristics.

h. Unit Eight: Investment and Retirement Accounts

Unit Eight teaches personnel about the importance of saving for the future, whether through a Roth Individual Retirement Account (IRA) or by using the Thrift Savings Plan (TSP) (CPPD, 2012a). The topics of saving now and saving for the future are important for DON personnel to understand. This unit is directly related to four financial fitness characteristics which include investment accounts, retirement accounts, financial advice, and routine savings.

i. Unit Nine: Government Travel

Unit Nine addresses government travel and the various ways and methods to avoid getting into trouble (CPPD, 2012a). This subject is relevant for DON personnel and is important to teach DON personnel in order to avoid disciplinary actions. Despite the fact this is an important topic, this unit does not directly relate to any of the financial fitness characteristics.

j. Unit Ten: Financial Planning for Deployment

Unit Ten discusses developing a financial plan for one of the most stressful times for military members: deployment (CPPD, 2012a). Having a plan for deployment is an important issue that DON personnel face in their military careers in order to maintain a steady level of financial fitness. This unit includes a multitude of financial fitness characteristics such as routine savings, budgeting/spending plan, retirement accounts, increased debt, missing loan or credit payments, and accounts in collections.

In addition to the entry level training by DON personnel, there is a yearly training requirement that all DON personnel must complete. This annual training is intended to help refresh personnel on various PFM subjects.

2. Annual PFM Training

All DON personnel, both officers and enlisted, must complete mandatory training annually to include the topic of PFM. The PFM training varies from year to year, but the subjects are always valid and relevant. This year, FY-2013, the General Military Training for PFM is about credit reports and debt management. These are important topics for DON personnel and are relevant to the 14 financial fitness characteristics identified in this research study.

3. Separation and Retirement PFM Training

DON personnel who transition out of the naval service must complete a class known as the Transition Assistance Program (TAP). TAP is an excellent tool to help personnel during the transition from military to civilian life. There is an extensive TAP curriculum designed to help military personnel with this transition, and one of the key topics covered includes personal financial issues. Several of the financial issues taught in the TAP class are in line with the 14 financial fitness characteristics that produce a "financially fit" individual. Topics covered include (NVTI 2012):

- Developing a spending plan
- The essentials of a budget

- The basic principles of understanding net worth
- Debt management
- The basics of a credit report and the importance of a solid credit score
- The various types of retirement savings accounts
  - Management of TSP accounts (NVTI, 2012)

These topics are also directly related to the 14 financial fitness characteristics and are equally important to military members and civilians. The DON provides PFM training, not only as a refresher for military PFM, but also as an introduction to civilian PFM.

J. SUMMARY

This chapter included a literature review establishing the need for DON to conduct PFM training for all DON personnel. Another important part of this chapter was the development of a standardized definition for the term financially fit. Also discussed were the 14 financial fitness characteristics that this research study included in the definition for the term financial fitness. Furthermore, this chapter detailed the relationship between the current DON PFM training program and the 14 financial fitness characteristics.

Chapter III will discuss the methodology used in this research study to answer the three research questions. It presents the methods used in conducting the literature review and data collection, a description of the 2011 Financial Health Quick Poll survey data, the development of the financial fitness index, and the methods used for data analysis.

III. METHODOLOGY

A. INTRODUCTION

This chapter describes the methodology used to determine the financial fitness of DON personnel in accordance with the 14 financial fitness characteristics defined in the literature review. It presents the methods used in conducting the literature review and data collection, a description of the 2011 Financial Health Quick Poll survey data, a discussion of the methods used for data analysis, and the development of the Financial Fitness Index (FFI).

B. LITERATURE REVIEW AND DATA COLLECTION

The first step in answering the three research questions involved conducting a literature review in order to ascertain the most important characteristics of financial fitness and whether or not the Navy Personal Financial Management (PFM) program provided training in the 14 financial fitness characteristics. Resources used included DoD policy instructions, peer reviewed scholarly articles, PFM financial training materials, GAO reports, RAND reports, and private sector personal financial management publications. The information researched in the literature review was used to define "financial fitness" and to identify the 14 financial fitness characteristics. This research included a review of all of the current PFM training courses conducted across the Navy to determine whether or not they addressed the 14 financial fitness characteristics as defined in the literature review in this research study. The financial health survey data from the 2011 Financial Health Quick Poll survey, which was previously administered by Naval Personnel Research, Studies, and Technology (NPRST), was used to test 10 of the 14 financial fitness characteristics and to measure the financial fitness of the survey respondents.

C. DESCRIPTION OF SURVEY DATA

The initial goal of this research was to create a financial fitness survey with questions that would correlate directly to the 14 financial fitness characteristics, which were identified in the literature review, in defining the term "financial fitness." Preliminary research revealed that the Navy had previously conducted financial health surveys in 2008, 2009, and 2011 for the purposes of assessing financial health and the associated challenges related to DON personnel residence status and Permanent Change of Station (PCS) moves. The questions in these surveys would have served as good reference material in developing a financially fit survey in order to determine the overall financial fitness of the Navy. However, Navy policy dictates that service members may not be surveyed multiple times about similar topics. It is important to point out that this policy precluded the development of a more specific financial fitness survey because it would have restricted the survey sample to only local commands or bases. Results collected from an individual command or unit would have been skewed by differences in geography or command demographics and would not have represented the whole DON population. Therefore, efforts were focused on gaining access to the previously collected data from the 2011 Financial Health Quick Poll survey versus the development of a new, but similar, survey. The following section describes the data received from the Office of the Chief of Naval Operations (OPNAV), Twenty-First Century Sailor Office.

1. Background on the U.S. Navy 2011 Financial Health Quick Poll

Following the 2008 economic recession and subsequent collapse of the U.S. housing market, the Secretary of the Navy directed the administration of a financial health survey in order to reassess the financial stress levels of DON personnel (NPRST, 2011). The first survey also coincided with the results of the 2005 GAO report which identified the inadequate tracking of PFM training and lack of tracking metrics training (GAO, 2005, p. 5). The follow-on surveys of 2009 and 2011 were tasked by the Chief of Naval Operations (CNO) and the OPNAV N135 office, respectively (NPSRT, 2011). The N135 office has recently been designated as the N17 office, also known as the Twenty-First Century Sailor Office. They are the controlling authority of the data collected in all the previous Financial Health Quick Poll surveys and provided all of the data for 2011 that was used in this research.

2. Data Collection

The data in the 2011 Financial Health Quick Poll survey was collected from a random sample of the entire active duty Navy population. The same survey questions were used on both the officer and enlisted personnel samples. The 12,535 randomly selected personnel were invited, through their respective chains of command, to take the voluntary survey hosted by the Navy Personnel Research, Studies, and Technology (NPRST) Quick Poll website. A total of 3,170 (2,380 enlisted and 790 officers) responses were received, which equates to a 28% response rate. The Navy active duty end strength (total active duty personnel) for 2011 was 51,962 officers and 267,988 enlisted. Using a sample size calculator with a 99% confidence value, these sample sizes equate to a +/- 3% margin of error for enlisted and a +/- 4% margin of error for officers. Even though the response rate was lower than expected for statistical research, the sample size was large enough to be representative of both populations. (NPRST, 2011)

3. Summary of Data Received from NPRST

The survey was comprised of four types of questions: demographic, subjective, objective, and opinion responses. For purposes of this research, the only demographic information requested was rank so that the data could be separated into officer and enlisted personnel samples. The subjective questions primarily consist of categorical questions pertaining to how the respondents felt about their current financial situation and the current economy in 2011. The objective questions consisted mostly of dichotomous, yes/no questions that measured the respondents' propensity toward certain personal financial management behaviors. The last category of questions gathered respondents' opinions for solutions to their own financial stresses. Most of the subjective questions were not used in this research. The following section addresses the survey questions that were used in this research study.

4. Survey Questions Used in This Research

The only subjective question used in this research was question #13, “Which of the following best describes your own or your family’s financial situation at this time?” (NPRST, 2011). This question was chosen because it subjectively captures the full extent of each respondent's financial health, and the response scale was optimal for performing further statistical analysis. It also provided a good measurement that each objective response could be compared against in the analysis. Tables 4 and 5 identify the objective questions used from the survey and map each financial fitness characteristic to its associated financial fitness variable. In some cases, multiple questions were associated with the financial fitness variables. For those variables, a yes response in any one of the survey questions for that variable correlated to a yes for that variable.

Variable	**Positive Characteristics**	**Survey Questions Used in Variable (yes = 1, no = 0)**
FP Advice	Regular Financial Advice	Have you had financial advice in the past 12 months? (Q32)
Saving	Routine Savings	Do you currently regularly contribute to a savings account? (Q23)
TSP	Retirement Savings	Do you contribute to the Thrift Savings Program? (Q22)
Investing	Investment Planning	No Correlated Questions/not included in model
Budgeting	Budgeting/Spending Plan	No Correlated Questions/not included in model
Emergency	Funded Emergency Fund	No Correlated Questions/not included in model
BA Manage	Bank Account Management	No Correlated Questions/not included in model

Table 4. Positive Financial Fitness Variables

Variable	**Negative Characteristics**	**Survey Questions Used in Variable (yes = 1, no = 0)**
Regret Debt	Increased Debt	Regretted decision to take on more debt (Q27_16)
Skip Bill	Skipped Payment	Could not make credit card payment (Q27_17)
		Could not make student loan payment (Q27_18)
		Could not make car loan payment (Q27_19)
		Skipped payment on bills (Q28_4)
		Unable to make required payments on debts (Q30_6)
CC Usage	Misusage of Credit Cards	Maxed out credit cards (Q28_11)
		Took a cash advance from a credit card (Q28_12)
		Applied for new credit card to get cash advance (Q28_13)
PD Loan	Acquired Payday Loan	Applied for a payday loan (Q28_7)
		Pawned possessions (Q28_8)
		Needed to take out a payday loan (Q30_11)
		Needed to take out a car title loan (Q30_12)
		Pawned possessions (Q30_13)
Denied Credit	Recently Denied Credit	Denied credit in last 12 months (Q30_1)
Collection	Accounts in Collections	Contacted by collection agents (Q30_2)
		Repossession of something purchased (Q30_3)
		Indebtedness letter to your command (Q30_8)
BK/F	Recent Foreclosure or Bankruptcy	Mortgage foreclosure (Q30_4)
		Filed personal bankruptcy (Q30_7)

Table 5. Negative Financial Fitness Variables

5. Survey Questions Not Used in This Research

This research does not utilize all the of the survey questions because the survey was designed to assess not only financial health but also the current state of DON personnel housing and PCS issues. However, this research only focuses on the 14 financial fitness characteristics that make up financial fitness, and thus, only utilized the data from some of the objective financial health questions. The only subjective question that was used was the subjective financial situation question (question #13, 2011 Financial Health Quick Poll survey) because this research only involves analysis of the objective factors in financial fitness. That question was, "Which of the following best describes your own or your family's financial situation at this time?" The majority of the objective questions were not used because a majority of them did not correlate to the 14 financial fitness characteristics defined in the literature review. The data from the categorical objective responses was not used in this research because they could not be evaluated under the same methods as the dichotomous data. Furthermore, the survey questions did not address four of the positive financial fitness characteristics, which include investment planning, budgeting/spending plan, funded emergency fund, and bank account management. Therefore, the final data analysis provided only covers the 10 variables for which information was available.

6. Navy Personnel Research, Studies, and Technology Executive Summary of Data

The executive summary created by Navy Personnel Research, Studies, and Technology provided some insight into the financial fitness of DON personnel through the presentation of descriptive statistical charts and graphs. Each chart and graph displays the percentage of responses for a given question, but does not cross-analyze any of the questions with each other. The presentation of the data as a series of charts and graph gave a general consensus into how respondents feel about their finances and the PFM issues affecting them but is mostly dependent on subjective responses. What the executive summary leaves out is an analysis of the specific financial fitness characteristics affecting each individual. In order to determine the true financial fitness of DON personnel, each individual must first be objectively measured for financial fitness and then compared against the data as a whole. This research project aims to use the same data in the 2011 Financial Health Quick Poll survey to derive a financial fitness score for each respondent and compare it to the subjective responses of the survey in order to gain further insight into which of the 14 financial fitness characteristics identified in the literature review are most significant to DON personnel financial health. This same analysis can be used to determine which financial fitness characteristics are most lacking so that the PFM training program can be adjusted to compensate for any deficiencies in training.

D. DATA ANALYSIS

This research project utilizes both descriptive and inferential statistical methods in analyzing the data using Microsoft Excel. The following sections will discuss the findings of the correlation analysis and multiple regression of dichotomous variables. The results of this analysis will help to better understand which of the already developed 14 financial fitness characteristics have a bigger effect on financial fitness.

1. Correlation Analysis

The first step of the analysis is to use a correlation matrix to help determine which variables are most relevant to the analysis. This involves correlation of all the objective variables to each other and to the subjective Financial Situation variable. This process will help identify which variables (or characteristics) correlate to better feelings about financial situations. Before this could be accomplished, the variables had to be dummy coded to 0 and 1 so that a correlation of the dichotomous variables could be accomplished. Coding the data in this way also makes inferences from the resulting correlation table more comprehensible. Furthermore, about 3% or the respondents did not answer some of the questions which resulted in a null response (no response) in the data. For purposes of the correlation analysis, the null responses for each question were included because they had no impact on the results.

2. Multiple Regression of Dichotomous Variables

This section discusses the methods used in the multiple regression analysis which was conducted in order to identify the relationship between the subjective financial situation variable (dependent variable) and the 10 objective financial fitness variables (independent variables). The dependent variable in this model is derived from the primary subjective financial situation question (question #13 from the survey). The independent variables will be represented by all the objective responses from the survey where respondents chose yes or no (i.e., 1 for yes and 2 for no). Since these are dichotomous variables, they had to first be dummy coded to 0 and 1 in order to perform the multiple regression. In this case, the positive characteristics would be coded as 0 for no and 1 for yes as previously illustrated in Table 4, while negative characteristics would be coded as 1 for no and 0 for yes as illustrated in Table 5.

This inverse dummy coding means that, if the regression model chooses a negative characteristic, it is actually choosing the absence of that negative characteristic, which is a positive characteristic of being "financially fit." In simpler terms, both positive behaviors and the absence of negative behaviors are coded as a 1 in the model. The final adjustment to the data required that respondents with a null response (no response) to any question be removed from the data in order to make the regression function properly. This reduced the sample by approximately 3%. Using a multiple regression of dichotomous variables should yield a model that chooses which objective variables have the greatest effect on the subjective variable. In other words, this regression model should be able to predict the financial situation of DON personnel using only the responses from the objective questions.

E. DEVELOPMENT OF THE FINANCIAL FITNESS INDEX

After all of the data analysis and multiple regressions, one question still remains: Are DON personnel financially fit? While the previously described regression analysis was beneficial in identifying which variables lead to financial fitness, it was flawed in that the resulting model was only a predictor of financial feeling based on the respondents' subjective responses. Because building, coding, and interpreting a multiple regression model can be time consuming and impractical for unit level commanders, a new metric must be developed that can be quickly and easily understood. Therefore, this research project proposes a Financial Fitness Index (FFI) that utilizes all of the 14 financial fitness characteristics. This can be accomplished by cumulating the responses from the dichotomous objective questions in the survey to produce a single score. This FFI score serves as an easy-to-understand metric that accounts for all of the 14 financial fitness characteristics that were identified as part of the literature review. The following section describes the ideal Financial Fitness Index (FFI).

1. The Ideal Financial Fitness Index

The ideal Financial Fitness Index (FFI) would involve gathering objective data from respondents in all of the 14 financial fitness characteristics and combining them together into a single score for each individual. Every yes response to a positive characteristic would add one point to the index, while every yes response to a negative characteristic would subtract one point from the index. The main assumption here is that every variable is equally weighted because it is more practical to do so. The total range of scores would be on a scale from 7 representing the best scenario to -7 representing the worst scenario. A positive score would indicate that the individual displays more positive characteristics than negative characteristics. A negative score would indicate that the individual displays more negative characteristics than positive characteristics. Seven points would be added in order to eliminate negative scores and make the data more conducive to statistical analysis and the adjusted scores would range from 0-14. Scores below seven would indicate that an individual displays more negative characteristics than positive characteristics and vice versa for scores greater than seven. Once every respondent is graded by the index, the data could be graphed on a normal distribution chart along with further descriptive statistics, such as the mean and standard deviation, which would give further insight into the overall financial fitness of the Navy as a whole. Using this ideal FFI would require the development of a new survey with questions that are specifically tailored to the 14 financial fitness characteristics which is beyond the scope of this research study but could be an area for further research.

2. The Modified Financial Fitness Index

Since this research project relied on previously existing data, the ideal financial fitness index could not be used. Instead, this research project utilizes a modified financial fitness index based on the same 10 variables used in the statistical analysis. The questions in the Financial Health Quick Poll survey only correlated to three of the positive characteristics and all seven of the negative characters. The four financial fitness characteristics not included in the modified FFI model are Investment Planning, Budgeting/Spending Plan, Funded Emergency Fund, and Bank Account Management. Statistical analysis indicated that some of the variables were highly correlated and that others were statistically insignificant. Therefore, it was decided to keep all 10 of these variables for the purposes of creating the FFI because of the practical significance of these variables. This modified FFI model was able to utilize the same coding that was previously used in the dichotomous regression models where each respondent received one point for each positive characteristic and one point for the absence of each negative characteristic. For purposes of the modified FFI, both positive financial fitness characteristics and the absence of a negative financial fitness characteristic, are scored as a 1 and then cumulated across all of the 10 financial fitness characteristics (variables) for each respondent. The modified FFI score for each respondent is simply a cumulative score of all the 1's from each of the available PFM financial fitness characteristics.

3. Comparing the Financial Fitness Index to Respondents' Financial Situation

After completing the FFI calculations for every respondent, the results can be compared to the average reported financial situation in order to find a correlation of the FFI to actual financial feelings. This requires sorting the data by FFI scores and then averaging the Financial Situation variable at each FFI score level, 1 through 10 (there were no scores of zero). The FFI scores are grouped by 2's, (i.e. 1/2, 3/4, 5/6, 7/8, and 9/10) so that the results will show more variation between score levels and also to control for low number personnel in certain score levels. For example, the officer FFI scores resulted in no level 1's, 2 level 2's, 4 level 3's and 6 level 4's. This comparison is one way of back-testing the FFI model without conducting further research or creating and testing another independent survey.

F. SUMMARY

This chapter presented the methodology to be used to determine the financial fitness of DON personnel in accordance with the 14 financial fitness characteristics identified in the literature review. It presented the methods used in conducting the literature review and data collection, described the 2011 Financial Health Quick Poll survey data, discussed the methods used for data analysis, and discussed the development of the Financial Fitness Index (FFI). Chapter IV will present the results of the data analysis.

IV. DATA ANALYSIS

A. INTRODUCTION

This chapter explores the results from the correlation analysis, multiple regression of dichotomous variables, develops the Financial Fitness Index (FFI), presents the relevant information used in answering the three research questions in this study, and makes recommendations from the data analysis. The data analysis was conducted in accordance with the prescribed methodology techniques from the previous chapter using the data analysis tools in Microsoft Excel. This analysis was conducted to test the significance of the 10 financial fitness variables which were correlated in the methodology chapter to 10 of the 14 financial fitness characteristics defined in the literature review. Further analysis was conducted to explore the differences in financial fitness characteristics between DON officers and enlisted personnel. This analysis also illustrates how each financial fitness variable affects an individual's financial situation as compared to the survey results from the 2011 Financial Health Quick Poll survey that was previously administered by Navy Personnel Research, Studies, and Technology (NPRST). The results of the data analysis demonstrate the relationship between this subjective financial situation variable and the objective financial fitness variables that were identified in the literature review and correlated in the methodology chapter. By identifying this relationship, Navy leadership and PFM counselors will have more information on the financial fitness of DON personnel and will be able to adjust future PFM training accordingly.

This chapter will discuss the results of the correlation analysis for DON personnel, the results of the multiple regressions of dichotomous variables for DON personnel, and the results of the modified FFI. Furthermore, this chapter will discuss how the data analysis answers the three research questions in this study. Tables 6 and 7 illustrate the relationship between the financial fitness variables and the financial fitness characteristics as well as the survey questions from which they derived.

Variable	Positive Characteristics	Survey Questions Used in Variable (yes = 1, no = 0)
FP Advice	Regular Financial Advice	Have you had financial advice in the past 12 months? (Q32)
Saving	Routine Savings	Do you currently regularly contribute to a savings account? (Q23)
TSP	Retirement Savings	Do you contribute to the Thrift Savings Program? (Q22)
Investing	Investment Planning	No Correlated Questions/not included in model
Budgeting	Budgeting/Spending Plan	No Correlated Questions/not included in model
Emergency	Funded Emergency Fund	No Correlated Questions/not included in model
BA Manage	Bank Account Management	No Correlated Questions/not included in model

Table 6. Positive Financial Fitness Variables

Variable	Negative Characteristics	Survey Questions Used in Variable (yes = 1, no = 0)
Regret Debt	Increased Debt	Regretted decision to take on more debt (Q27_16)
Skip Bill	Skipped Payment	Could not make credit card payment (Q27_17)
		Could not make student loan payment (Q27_18)
		Could not make car loan payment (Q27_19)
		Skipped payment on bills (Q28_4)
		Unable to make required payments on debts (Q30_6)
CC Usage	Misusage of Credit Cards	Maxed out credit cards (Q28_11)
		Took a cash advance from a credit card (Q28_12)
		Applied for new credit card to get cash advance (Q28_13)
PD Loan	Acquired Payday Loan	Applied for a payday loan (Q28_7)
		Pawned possessions (Q28_8)
		Needed to take out a payday loan (Q30_11)
		Needed to take out a car title loan (Q30_12)
		Pawned possessions (Q30_13)
Denied Credit	Recently Denied Credit	Denied credit in last 12 months (Q30_1)
Collection	Accounts in Collections	Contacted by collection agents (Q30_2)
		Repossession of something purchased (Q30_3)
		Indebtedness letter to your command (Q30_8)
BK/F	Recent Foreclosure or Bankruptcy	Mortgage foreclosure (Q30_4)
		Filed personal bankruptcy (Q30_7)

Table 7. Negative Financial Fitness Variables

B. CORRELATION ANALYSIS

A correlation analysis was conducted to determine if there were any predictive relationships between the 10 financial fitness variables previously identified in this study.

For purposes of this analysis, the 10 financial fitness variables were compared to each other and to the subjective Financial Situation variable that was derived from the financial situation question from the 2011 Financial Health Quick Poll survey (question #13). This question asked participants to subjectively report their current financial situation given five categorical responses as displayed in Table 8. The data from this question was used to derive the Financial Situation variable for which all of the other objective variables were analyzed against. The rankings of the responses for the question in the survey were in descending order with 1 representing the highest financial situation (very comfortable and secure) and 5 representing the lowest financial situation (in over my/our head). In order for the correlation and regression analysis to be properly accomplished, the financial situation data had to first be recoded so that the responses would be in ascending order with a 5 representing the highest financial situation (very comfortable and secure). Table 8 illustrates this new relationship.

Original Response	**Financial Situation (Question #13)**	**Coded Response**
1	Very comfortable and secure	5
2	Able to make ends meet without much difficulty	4
3	Occasionally have some difficulty making ends meet	3
4	Tough to make ends meet but keeps head above water	2
5	In over my/our head	1

Table 8. Coded Responses for the Financial Situation Variable

The 10 financial fitness variables for which information was available in the survey data were first analyzed in the correlation matrices displayed in Figures 1 and 2 as shown in the correlation results section of this chapter. The correlation tables are separated by officer and enlisted personnel samples and color coded to highlight areas of negative correlation (red) and areas of relatively high correlation (green). The high correlation cutoff will be different for the officer and enlisted personnel results because the correlations are relative to the data collected in those independent samples. Correlations within 20% of the highest correlation relationship will be included for further analysis. Each of the highlighted relationships represents an area that requires further explanation and will be discussed in the following subsections. Because of the inverse coding used for the negative characteristics, a positive correlation between a negative characteristics variable and a positive characteristic variable is to be understood as the absence of that negative behavior which is therefore a positive relationship. For example, a correlation between misusage of credit cards (a negative characteristic) and regular savings (a positive characteristic) means that the characteristic of not misusing credit cards is correlated to the characteristic of saving money, which is to be expected based on the background research found in the literature review. It is important to keep in mind that identifying these strong, weak, or negative correlations does not imply causation for any relationship. Further analysis is provided in the form of a multiple regression of dichotomous variables to test the statistical significance and best fit of these variables.

1. Officer Correlation Results

The correlation table shown in Figure 1 (Officer Correlation Matrix) shows the highest correlation as 0.377 (between Skip Bill and Collection); therefore, green is used to highlight values greater than 0.301. The strongest positive correlations occur between the subjective Financial Situation variable and the objective variables of Saving, Regret Debt, Skip Bill, and CC Usage. The implication of these correlations is that there is a relatively strong correlation between how people feel about their finances and whether they display these four financial characteristics. Except for the FP Advice variable, this result was in line with the PFM characteristics that were identified to be important to financial fitness. In addition, there is a strong correlation between the Skip Bill and Collection variables which is more likely because that is typically what happens when individuals do not pay their bills. There was also a strong correlation between the Regret Debt and CC Usage variables because credit cards, which represent one form of debt, can contribute to an individual’s regret to take on more debt.

	Situation	*FP Advice*	*TSP*	*Saving*	*Regret Debt*	*Skip Bill*	*CC Usage*	*PD Loan*	*Denied Credit*	*Collection*	*BK/F*
Situation	1.000										
FP Advice	-0.075	1.000									
TSP	0.046	-0.032	1.000								
Saving	0.341	0.005	-0.014	1.000							
Regret Debt	0.314	-0.092	0.001	0.141	1.000						
Skip Bill	0.329	-0.057	0.014	0.183	0.171	1.000					
CC Usage	0.375	-0.072	0.036	0.264	0.301	0.289	1.000				
PD Loan	0.211	-0.051	-0.055	0.078	0.210	0.122	0.227	1.000			
Denied Credit	0.147	-0.024	0.068	0.158	0.176	0.167	0.152	0.124	1.000		
Collection	0.197	-0.038	0.073	0.080	0.208	0.377	0.212	0.027	0.296	1.000	
BK/F	0.069	-0.023	0.050	0.010	0.131	0.148	0.052	-0.009	-0.016	0.245	1.000

Figure 1. Officer Correlation Matrix

In addition, Figure 1 indicates that there is a negative correlation between the FP Advice and all the other variables except for the Saving variable. The literature review suggests that receiving financial advice would be positively correlated to all of the financial fitness variables because most generic financial advice and PFM training materials tend to recommend behaviors that correlate to all of these variables. From this data analysis, FP Advice is also the only variable with a negative correlation to the subjective Financial Situation variable, which might suggest that this variable does not contribute to financial fitness. However, this negative correlation may indicate that individuals who sought personal financial advice were seeking it because of their financial problems in the areas highlighted in red under the FP Advice variable from Figure 1. In other words, the data analysis suggests that individuals who sought personal financial advice did so after experiencing personal PFM problems.

Another observation from this table is the negative correlation between the TSP contributions variable and the Saving and PD Loan variables. The negative correlation between TSP and Saving indicates that there may be some correlation between saving money and not contributing to TSP, or vice versa. This is probably a result of the significant difference between the number of officers who regularly contribute to savings and TSP. The data indicates that 80% of officers regularly contribute to a savings account but only 58% of officers contribute to TSP. This may also suggest that some officers are foregoing saving to make TSP contributions or are foregoing TSP contributions in order to contribute to regular savings. The most likely explanation for less TSP contributions for officers is that they are saving money to invest in other areas, as evidenced by their propensity to use private sector financial planners (51% of officer respondents) or bank/credit union financial specialists (25% of officer respondents) for their financial advice (NPRST, 2011). The negative correlation between the PD Loan and TSP variables can be explained by observing the individual survey participant responses. Only 11 officers (1.4% of respondents) reported to have recently taken a payday loan and 9 of those 11 officer respondents reported that they are regularly contributing to TSP. There is a contradiction with these 9 individual respondents because the extraordinary finance cost associated with payday loans outweighs any return on investment received from the TSP contributions. Furthermore, this contradiction of behaviors and the low number of relative responses for the PD Loan variable has an insignificant effect on the population data as a whole.

The last negative correlation occurs between the Bankruptcy/Foreclosure (BK/F) variable and the PD Loan and Denied Credit variables. This can also be explained by the low number of responses, of which there were only 4 officers who reported to have recently filed bankruptcy or foreclosure (0.5% of respondents). Of those 4 officers who answered yes to bankruptcy or foreclosure, none of them had taken a payday loan or had been denied credit which should have resulted in a correlation of zero. Therefore, the negative correlation must occur in the other direction. Of the respondents who did take a payday loan (1.4% of respondents) or had been denied credit (4.9% of respondents), there is a negative correlation to the BK/F variable. These few negative correlations, while interesting, represent such a small portion of the officer data sample that further inferences are not necessary.

2. Enlisted Correlation Results

In the enlisted correlation table shown in Figure 2 (Enlisted Correlation Matrix), the highest correlation is 0.479 between the Skip Bill and Collection variables and Green is used to highlight values greater than 0.383. This is a different threshold than what was used in the officer analysis because of the relative differences in sample sizes and response rates for each question. The average correlation for all enlisted variables was about 10% higher than the average correlation of all officer variables, most likely due to more total "yes" responses per respondent on average. This simply indicates that the average enlisted person responded yes to more questions than the average officer did, which indicates that the average officer exhibits fewer of these behaviors than the average enlisted personnel. Since the majority of the financial fitness characteristics are negative, this indicates that the average enlisted personnel portray more negative characteristics than officers. This will be discussed later in the financial fitness index section later in this chapter.

	Situation	*FP Advice*	*TSP*	*Saving*	*Regret Debt*	*Skip Bill*	*CC Usage*	*PD Loan*	*Denied Credit*	*Collection*	*BK/F*
Situation	1.000										
FP Advice	-0.128	1.000									
TSP	-0.012	0.034	1.000								
Saving	0.215	0.006	0.029	1.000							
Regret Debt	0.311	-0.091	0.010	0.106	1.000						
Skip Bill	0.429	-0.094	0.010	0.173	0.304	1.000					
CC Usage	0.344	-0.089	-0.039	0.170	0.345	0.369	1.000				
PD Loan	0.310	-0.164	0.024	0.129	0.293	0.386	0.220	1.000			
Denied Credit	0.282	-0.117	0.027	0.143	0.250	0.375	0.238	0.300	1.000		
Collection	0.282	-0.095	0.011	0.162	0.225	0.479	0.206	0.294	0.458	1.000	
BK/F	0.064	-0.032	0.018	0.079	0.059	0.144	0.096	0.066	0.102	0.115	1.000

Figure 2. Enlisted Correlation Matrix

The strongest positive correlation to the subjective financial situation variable for enlisted personnel is the Skip Bill variable. There is a strong correlation between how enlisted personnel feel about their finances and the behavior of skipping bill payments. Conversely, not skipping bill payments has a high correlation to how enlisted personnel feel about their finances. As with the officers, there is a strong correlation between skipping bill payments and accounts going to collection. Furthermore, there is a relatively strong correlation between people with accounts in collection and people being denied credit. This is in line with the fact that lenders in general are not likely to lend to an individual with accounts currently in collection. There may be other reasons for being denied credit but the survey did not have data to evaluate this variable any further.

The negative correlations in the enlisted correlation matrix as shown in Table 7 are comparable to the ones found in the officer correlation matrix as shown in Table 6. Similar to the officer PD Loan variable, the enlisted TSP variable has a negative correlation to the CC Usage variable. Of the enlisted personnel respondents who reported misuse of credit cards, 66% still contributed to TSP. While this indicates that these two variables have no correlation to each other, it also illustrates another difference in the personal financial management behaviors/priorities between officers and enlisted personnel. These differences in financial fitness characteristics are further explored later in this chapter.

There also appear to be some similarities and differences in how officers and enlisted personnel treat personal financial advice. The FP Advice variable is negatively correlated to almost all of the other variables with one main difference in that it has a positive correlation to the TSP variable, which also has a negative correlation to the Financial Situation variable. This is analogous to the officer correlation analysis and can be explained by examining the number of enlisted personnel who contribute to TSP (62% of enlisted respondents) versus the number of enlisted personnel who reported regular savings (69% of enlisted respondents). Similarly, the means by which enlisted personnel receive personal financial advice is different than for the officers. NPRST reported that enlisted personnel receive personal financial advice mostly from DON Command Financial Specialists (CFS) (44% of enlisted respondents) and the Fleet and Family Support Centers (FFSC) (26% of enlisted respondents). For comparison, officers only used CFS and FFSC, 7% and 12% respectively (NPRST, 2011). The personal financial advice source represents the biggest difference between officer and enlisted personnel regarding financial fitness.

Correlation tables alone do not provide enough information to make any final conclusions about the data because correlation does not imply causation. The regression models discussed in the next section will be used to provide further analysis in this research project.

C. MULTIPLE REGRESSION OF DICHOTOMOUS VARIABLES

This section discusses the results of the regression analysis that was conducted in order to identify the relationship between the subjective Financial Situation variable (dependent variable) and the 10 financial fitness variables (independent variables). The

10 financial fitness variables used in this analysis were derived from the dichotomous objective questions in the survey data, for which respondents could only answer "Yes" or "No." The resulting regression equations will be used to predict officer and enlisted respondent's financial situation based on their inputs to the 10 objective financial fitness variables.

The P-values highlighted in red denote that it is greater than .05 for that variable, and therefore, not statistically significant to that particular model. However, a variable that is not statistically significant in the model can still have practical significance. This significance will be further discussed in the financial fitness index section. The Y-variable for both models is the subjective Financial Situation variable, which ranges on an increasing scale from 1 (in over my/our heads) to 5 (very comfortable and secure) using the recoded data from Table 8.

1. Officer Regression Model Results

Figure 3 (Officer Multiple Regression) shows the results of the multiple regression of dichotomous variables on the officer personnel sample from the survey responses. The regression model is used to derive the equation for predicting officer financial situation using only objective data.

Regression Statistics	
Multiple R	0.5360
R Square	0.2873
Adjusted R Sqr	0.2780
Standard Error	0.6302
Observations	781

ANOVA	*df*	*SS*	*MS*	*F*	*Significance F*
Regression	10	123.2344	12.3234	31.0341	0.0000
Residual	770	305.7618	0.3971		
Total	780	428.9962			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.7676	0.3826	4.6201	0.0000	1.0166	2.5186	1.0166	2.5186
FP Advice	-0.0466	0.0478	-0.9758	0.3295	-0.1405	0.0472	-0.1405	0.0472
TSP	0.0628	0.0463	1.3564	0.1754	-0.0281	0.1537	-0.0281	0.1537
Saving	0.4245	0.0599	7.0921	0.0000	0.3070	0.5420	0.3070	0.5420
Regret Debt	0.3660	0.0725	5.0444	0.0000	0.2235	0.5084	0.2235	0.5084
Skip Bill	0.6171	0.1163	5.3074	0.0000	0.3889	0.8454	0.3889	0.8454
CC Usage	0.5306	0.1011	5.2501	0.0000	0.3322	0.7290	0.3322	0.7290
PD Loan	0.5986	0.2008	2.9813	0.0030	0.2044	0.9927	0.2044	0.9927
Denied Credit	-0.0031	0.1128	-0.0273	0.9782	-0.2246	0.2184	-0.2246	0.2184
Collection	0.1124	0.1264	0.8889	0.3743	-0.1358	0.3606	-0.1358	0.3606
BK/F	-0.0058	0.3300	-0.0175	0.9861	-0.6536	0.6420	-0.6536	0.6420

Figure 3. Officer Multiple Regression

The adjusted R-squared (.2780) for the regression model in Figure 3, highlighted in yellow, indicates that nearly 28% of an officer's financial situation can be explained by the 10 variables in the model. The multiple regression found five financial fitness variables (Saving, Regret Debt, Skip Bill, CC Usage, PD Loan) to be statistically significant due to the P-value being less than .05, which are highlighted in blue in Figure 3. The multiple regression also indicated that five of the financial fitness variables have a P-value greater than .05 and are therefore not statistically significant. These five statistically insignificant variables are FP Advice, TSP, Denied Credit, Collections, and BK/F, which are highlighted in red in Figure 3, and all have small coefficients and, thus, do not have much effect on the predicted officer financial situation. Removing those five variables does not change the R-squared value and only changes the average predicted value by less than 3%. The mean officer financial situation was calculated to be 4.2. By dividing the standard error of .6302 by the mean officer financial situation (4.2), this indicates that the average error between the actual financial situation values and the predicted financial situation values is approximately 14.9%.

The equation that describes this relationship between the predicted financial situation and the five statistically significant variables including the intercept coefficient (1.7676) is as follows:

Financial Situation (FS) = Saving*(0.4245) + Regret Debt*(0.3660) + Skip Bill*(0.6171) + CC Usage*(0.5306) + PD Loan*(0.5986) + 1.7676

For example, an officer who responded "yes" to the Saving variable (yes = 1 for positive variables) and "no" to the Regret Debt, Skip Bill, CC Usage, and PD Loan variables (no = 1 for negative variables) would have a predicted financial situation (FS) of approximately 4.3 (FS = 1*(0.4245) + 1*(0.3660) + 1*(0.6171) + 1*(0.5306) + 1*(0.5986) + 1.7676) which is slightly better than "able to make ends meet without much difficulty" based on the coded responses for the Financial Situation variable shown in Table 8.

The question still remains, how much does each financial fitness variable effect the predicted financial situation? Dividing each coefficient by the mean officer financial situation (4.2) yields a weighted effect of each financial fitness variable on a respondent's predicted financial situation. The weighted contribution of these variables to the average predicted officer financial situation is therefore, in descending order, Skip Bill (14.7%), PD Loan (14.3%), CC Usage (12.6%), Saving (10.1%), and Regret Debt (8.7%). The total weighted contribution of these five variables (60.4%) represents the explained portion of an officer's predicted financial situation from this model. The remaining unexplained portion of predicted officer financial situation in the model is captured by the intercept coefficient (1.7676) which, when divided by the mean officer financial situation (4.2), equates to 42.1% of an officer's predicted financial situation. The intercept coefficient represents the lowest predicted financial situation value (approximately 2) which indicates that on average, few respondents did not report themselves as being "in over their head" even if they responded negatively to the objective variables. This means that there were relatively few responses in the lower range of the responses given for the financial situation variable. The total contribution of all the variables and the intercept coefficient is 102.5% which is greater than 100% due to the cumulative effect from multiple rounding errors and the omission of the five statistically insignificant variables.

2. Enlisted Personnel Regression Model Results

Figure 4 (Enlisted Multiple Regression) shows the results of the multiple regression of dichotomous variables on the enlisted personnel sample from the survey responses. The regression model is used to derive the equation for predicting enlisted personnel financial situation using only objective data. The adjusted R-squared (.2755) for the regression model in Figure 4, which is highlighted in yellow, indicates that nearly 28% of enlisted personnel financial situation can be explained by the 10 variables in the model. The multiple regression found seven financial fitness variables (FP Advice, Saving, Regret Debt, Skip Bill, CC Usage, PD Loan, Denied Credit) to be statistically significant due to the P-value being less than .05 (highlighted in blue in Figure 4).

Regression Statistics	
Multiple R	0.5278
R Square	0.2785
Adjusted R Sqr	0.2755
Standard Error	0.7294
Observations	2345

ANOVA	df	SS	MS	F	Significance F
Regression	10	479.3997	47.9400	90.1126	0.00000
Residual	2334	1241.6894	0.5320		
Total	2344	1721.0891			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.4460	0.1653	14.8004	0.00000	2.1219	2.7700	2.1219	2.7700
FP Advice	-0.0969	0.0313	-3.1004	0.00196	-0.1582	-0.0356	-0.1582	-0.0356
TSP	-0.0271	0.0310	-0.8719	0.38337	-0.0879	0.0338	-0.0879	0.0338
Saving	0.2034	0.0332	6.1281	0.00000	0.1383	0.2685	0.1383	0.2685
Regret Debt	0.2470	0.0405	6.1029	0.00000	0.1677	0.3264	0.1677	0.3264
Skip Bill	0.5331	0.0493	10.8139	0.00000	0.4365	0.6298	0.4365	0.6298
CC Usage	0.3504	0.0468	7.4864	0.00000	0.2586	0.4422	0.2586	0.4422
PD Loan	0.2483	0.0492	5.0498	0.00000	0.1519	0.3447	0.1519	0.3447
Denied Credit	0.1353	0.0447	3.0282	0.00249	0.0477	0.2230	0.0477	0.2230
Collection	0.0752	0.0522	1.4428	0.14920	-0.0270	0.1775	-0.0270	0.1775
BK/F	-0.1670	0.1622	-1.0294	0.30339	-0.4852	0.1511	-0.4852	0.1511

Figure 4. Enlisted Multiple Regression

The multiple regression also indicates that three of the variables have a P-value greater than .05 and are, therefore, not statistically significant. These three statistically insignificant variables, TSP, Collections, and BK/F, are highlighted in red, and all have small coefficients and, thus, do not have much effect on the predicted financial situation. Removing those three variables did not change the R-squared and changed the average predicted value by less than 3%. The mean enlisted financial situation was calculated to be 3.7. By dividing the standard error of 0.7294 by the average financial situation, this indicates that the average error between the actual financial situation values and the predicted financial situation values is approximately 19.7%.

The equation that describes this relationship between the predicted financial situation and the seven statistically significant variables including the intercept coefficient (2.4460) is as follows:

Financial Situation (FS) = FP Advice*(-0.0969) + Saving*(0.2034) + RegretDebt*(0.2470) + Skip Bill*(0.5331) + CC Usage*(0.3504) + PD Loan*(0.2483) + Denied Credit*(0.1353) + 2.4460

For example, an enlisted individual who responded “yes” to the FP Advice and Saving variable (yes = 1 for positive variables) and “no” to the Regret Debt, Skip Bill, CC Usage, PD Loan, and Denied Credit variables (no = 1 for negative variables) would have a predicted financial situation (FS) of approximately 4.1 (FS = 1*(-0.0969) + 1*(0.2034) + 1*(0.2470) + 1*(0.5331) + 1*(0.3504) + 1*(0.2483) + 1*(0.1353) + 2.4460) which is slightly better than “able to make ends meet without much difficulty” based on the coded responses for the Financial Situation variable shown in Table 8.

The question still remains, how much does each financial fitness variable effect the predicted financial situation? These coefficients can be divided by the average enlisted financial situation to yield a weighted effect of each variable on a respondent’s predicted financial situation. The weighted contribution of these variables to the average predicted enlisted personnel financial situation is therefore, in descending order, Skip Bill (14.4%), CC Usage (9.5%), PD Loan (6.7%), Regret Debt (6.7%), Saving (5.5%), Denied Credit (3.7%), and Advice (-2.6%). The total weighted contribution of these seven variables (43.9%) represents the explained portion of an enlisted personnel’s predicted financial situation from this model. The remaining unexplained portion of predicted enlisted financial situation in the model is captured by the intercept coefficient (2.4460) and when divided by the mean enlisted financial situation (3.7), equates to 66.1% of predicted enlisted financial situation. The total contribution of all the variables and the intercept coefficient is 110% which is greater than 100% due to the cumulative effect from multiple rounding errors and the omission of the three statistically insignificant variables.

3. Limitations of the Multiple Regression Models

Except for minor differences previously discussed, both officer and enlisted equations are very similar in the weighted value of each variable on respondents’ predicted financial situation. The equations derived from the multiple regression models can be used to predict an individual’s financial situation based solely on the responses from the objective survey questions. The results of these multiple regression models suggest that there are other variables that contribute to an individual’s overall financial situation, and that some of the variables chosen are not statistically significant. However, this does not invalidate the need for training in the financial fitness characteristics associated with the statistically insignificant variables. In fact, the inconclusive nature of the results suggests that more training in these areas may increase the relevance of each variable which could result in an increase in the R-squared values.

Furthermore, the complexity of the multiple regression models and the fact that they are based on the respondents' subjective responses regarding financial feelings indicates that another type of metric in determining financial fitness may be a better indicator or at least easier to understand. For example, using the scale in Table 8, a predicted score of 4.2 from the multiple regression (the mean financial situation score for all officers) indicates that an individual's predicted financial situation is a little better than "able to make ends meet without much difficulty" based on the responses given to the objective variables. What the regression models lack are a benchmark that correlates the predicted financial situation from the model to individual financial fitness and a connection to the DON PFM training program. The following section discusses the need for such a benchmark that is tied to the DON PFM training program, describes the Financial Fitness Index (FFI), and discusses the results found from analyzing the previously collected survey data.

D. THE MODIFIED FINANCIAL FITNESS INDEX RESULTS

As previously discussed, the limitations of the regression models call for a metric that can be benchmarked to the 14 financial fitness characteristics and that can be more easily understood by DON leadership and PFM professionals. The Financial Fitness Index (FFI), which was previously developed in Chapter III, achieves this goal. As demonstrated with this previously administered survey, the FFI can be easily modified based on the changing needs of Navy personnel. The modified FFI used in this research is based on 10 of the 14 previously defined financial fitness characteristics (variables) that were correlated to the responses in the survey questions. The scoring for the modified FFI model, as described in the methodology, is based on cumulating the 10 financial fitness variables from the previously recoded data used in the correlation tables and the multiple regression models. While this is not the ideal FFI model, it can still be used to answer the research questions posed in this research project and could be further modified to fit other circumstances as the PFM program evolves or as other research in this area is performed. For example, as shown in Figures 5 and 6, the mode for both officers and enlisted in this FFI model is a 9 out of 10. This means that the respondents with an FFI score of 9, answered positively to 9 out of 10 of the possible PFM financial fitness characteristics in this survey. Converting the previously analyzed data into the FFI model, as described in Chapter III, provides an easy to understand metric to objectively measure the current state of financial fitness in the DON. After the conversion, it is easy to display and analyze the descriptive statistics separated by officer and enlisted personnel. Additional results regarding this FFI model are discussed in the following sections.

1. Officer FFI Results

Regarding Figure 5, FFI score represents the score resulting from cumulating the positive responses to the PFM financial fitness characteristics (variables). The number in the count column is the number of respondents who achieved the associated score, and the percent is derived by dividing the count number by the total number of officer respondents (781). For example, 247 officer respondents (31.6% of the total 781officer respondents) answered positively to 9 out of 10 possible PFM financial fitness characteristics (variables), which are shown in the FFI score column.

FFI Score	*Count*	*Percent*
1	0	0.0%
2	2	0.3%
3	4	0.5%
4	6	0.8%
5	7	0.9%
6	29	3.7%
7	74	9.5%
8	247	31.6%
9	318	40.7%
10	94	12.0%

Officer Summary Statistics	
Mean	8.3803
Standard Error	0.0425
Median	9
Mode	9
Standard Deviation	1.1887
Sample Variance	1.4129
Kurtosis	4.5523
Skewness	-1.5622
Sum	6545
Count	781

Figure 5. Officer FFI Distribution and Descriptive Statistics

The officer FFI results show less variation than the enlisted personnel FFI results, because only approximately 6% (0.0 + 0.3 + 0.5 + 0.8 + 0.9 + 3.7) of officers scored less than a 7 FFI score, as shown in Figure 5, while approximately 20% (0.2 + 0.9 + 2.0 + 4.1 + 5.1 + 7.9) of enlisted personnel scored less than a 7 FFI score, as shown in Figure 6. In the officer FFI descriptive statistics summary, the median and mode are both 9 which indicates that most of officers scored a 9 or above. As a result, the officer standard deviation is lower than the enlisted standard deviation which is partly due to the heavily skewed number of respondents in the upper portion of the distribution. The data can then be quickly sorted to find out which variables are most lacking and PFM training can be adjusted accordingly. After sorting the data using Microsoft Excel, the three characteristics that were lacking the most for officers are, in descending order, FP Advice, TSP, and Savings, which are all the positive financial fitness characteristics.

2. Enlisted Personnel FFI Results

Regarding Figure 6, FFI score represents the score resulting from cumulating the positive responses to the financial fitness characteristics (variables). The number in the count column is the number of respondents who achieved the associated score, and the percent is derived by dividing the count number by the total number of enlisted personnel respondents (2345). For example, 379 enlisted respondents (16.2% of the total 2345 enlisted respondents) answered positively to 7 out of 10 possible PFM financial fitness characteristics (variables), which are shown in the FFI score column.

FFI Score	*Count*	*Percent*
1	5	0.2%
2	21	0.9%
3	48	2.0%
4	97	4.1%
5	120	5.1%
6	186	7.9%
7	379	16.2%
8	620	26.4%
9	654	27.9%
10	215	9.2%

Enlisted Summary Statistics	
Mean	7.6520
Standard Error	0.0362
Median	8
Mode	9
Standard Deviation	1.7509
Sample Variance	3.0657
Kurtosis	0.9576
Skewness	-1.0811
Sum	17944
Count	2345

Figure 6. Enlisted FFI Distribution and Descriptive Statistics

The results displayed in Figure 6 (Enlisted FFI Distribution and Descriptive Statistics) provide insight into how well enlisted personnel are doing with personal financial management. The mean of 7.7 indicates that most enlisted personnel responded positively to at least seven of the financial fitness variables. The standard deviation is fairly large, but that is due to a few outliers on the lower end of the distribution.

In the enlisted FFI descriptive statistics summary, the median of 8 and the mode of 9 indicate that most of the enlisted personnel scored 8 or above. This means that most enlisted personnel exhibit at least 8 of the 10 financial fitness variables as measured in this FFI model. However, the three characteristics most lacking for the enlisted personnel are the same as for the officers: FP Advice, TSP, and Savings. It appears that both officers and enlisted personnel do not exhibit the positive financial fitness characteristics as well as they avoid the negative characteristics of financial fitness. The main difference between officers and enlisted personnel regarding the FFI is in the distribution of the FFI scores. The officer distribution is more positively skewed than the enlisted distribution which is also evidenced by the higher mean for the officers (8.4).

3. Back-Testing of the Financial Fitness Index

To ascertain how the FFI scores compared to the subjective financial situation responses, the respondents were grouped by their FFI scores. FFI scores were grouped in pairs due to the low number of respondents scoring in the lower end of the FFI score range. The average financial situation for each group is calculated by summing the financial situation for the respondents for each FFI group and dividing by the number of respondents in each FFI group (Figure 7). The data in Figure 7 (Officer and Enlisted Personnel FFI versus Average Financial Situation) indicates there is a measurable correlation between the objectively calculated FFI and the average financial situation. The relationship shows that as FFI scores increase so too does the average reported Financial Situation, which refers to the coded responses for the Financial Situation variable as shown in Table 8. For example, enlisted personnel who had an FFI score of 3 and 4 resulted in a 2.77 average Financial Situation, which means that they responded between 3 (“occasionally making ends meet”) and 2 (“tough to make ends meet but keeps head above water"). This analysis showed similar results for the officer respondents in that same 3 to 4 FFI score category, with an average FS of 2.80. This analysis also serves to confirm that the results of the FFI do correlate to a respondent's financial situation and can be used as a valid metric for measuring financial fitness.

Enlisted FFI Score	*Avg Financial Situation*
1 and 2	2.58
3 and 4	2.77
5 and 6	3.13
7 and 8	3.72
9 and 10	4.00

Officer FFI Score	*Avg Financial Situation*
1 and 2	2.50
3 and 4	2.80
5 and 6	3.44
7 and 8	4.09
9 and 10	4.43

Figure 7. Officer and Enlisted Personnel FFI Versus Average Financial Situation

4. Limitations of the Financial Fitness Index

There are limitations to the developed Financial Fitness Index. Sorting of the data to find the most lacking characteristics could have been done without first calculating the FFI model. The FFI is limited in that two respondents with the same score could have completely opposite FFI characteristics contributing to their score. Furthermore, every characteristic is evenly weighted per respondent, but not evenly distributed (Figures 5 and 6). For example, there were only four officers reporting recent bankruptcies which brought the individuals' scores down by 10% (1 FFI variable/10 FFI variables) even though the data indicates that only 0.5% of the officer respondents were affected by the BK/F variable. However, the simple and objective nature of the Financial Fitness Index makes the data easier for DON leadership and PFM professionals to understand rather than a regression model.

E. EFFECT OF SURVEY DATA ANALYSIS ON THE RESEARCH QUESTIONS

The literature review of this research project discusses the background research that was conducted in defining the 14 financial fitness characteristics as shown in Table 9. This chapter tested those characteristics against previously existing survey data from the 2011 Financial Health Quick Poll survey. This data analysis was conducted for the purposes of testing the financial fitness characteristics and reviewing DON personnel financial fitness to support answering the following three research questions:

- What personal financial management characteristics contribute to the financial fitness of DON personnel?
- How does the Navy PFM training program address the PFM characteristics identified in this research study?
- What are the differences between officer and enlisted DON personnel regarding financial fitness characteristics?

This section provides further discussion of the research questions.

1. What Personal Financial Management Characteristics Contribute to the Financial Fitness of DON Personnel?

The first step in answering this research question involved conducting a literature review in order to ascertain the most important characteristics of financial fitness and whether or not the DON Personal Financial Management (PFM) program provided training in these areas. Resources used included DoD policy instructions, peer reviewed scholarly articles, PFM financial training materials, GAO reports, RAND reports, and private sector personal financial management publications. The information researched in the literature review was used to define "financial fitness" and to identify the 14 financial fitness characteristics. This research included a review of all of the current PFM training courses conducted across the Navy to determine whether or not they addressed the 14 financial fitness characteristics as defined in the literature review in this research study.

Since the data collected from the previously administered survey was not specifically geared towards researching financial fitness, only 10 of the 14 financial fitness characteristics could be tested. The four financial fitness characteristics that could not be tested were Investment Planning, Budgeting/Spending Plan, Funded Emergency Fund, and Bank Account Management. Of the 10 variables that were tested, three of them were found to be statistically insignificant using the multiple regression of dichotomous variables on both the officer and enlisted personnel samples. These three variables were TSP, Collections, and BK/F. As discussed earlier, both the Collections and the BK/F variables were probably found to be statistically insignificant because of the lack of responses for those variables or that they were highly correlated to other variables in the model. The TSP contribution variable is only one piece of the Retirement Savings variable for which no further data was available. Perhaps this variable would have been found to be more significant if more data were available regarding other retirement savings. Regardless, the literature review suggests that these three variables are still practically significant financial characteristics in financial fitness, so all of the variables were used in the FFI models.

The regression model analysis suggested that only 5-7 of the 10 financial fitness variables tested were statistically significant in predicting an individual's financial situation and that only 28% of a that financial situation could be described by the regression models. This could be interpreted to mean that the statistically insignificant variables are not relevant in defining financial fitness. However, these variables were only tested against how the respondents subjectively reported feeling about their financial situation. The complex nature of personal finance and the subjectivity of the survey questions explain the high variability in the survey data and the inconsistencies in the correlation and multiple regression results. This is statistically evident in the high intercept coefficient found in both the officer and enlisted personnel models which was four times higher than any other variable tested. The intercept coefficient represents the lowest predicted financial situation value (approximately 2) which indicates that on average, few respondents did not report themselves as being "in over their head" even if they responded negatively to the objective variables. This means that there were relatively few responses in the lower range of the responses given for the financial situation variable. This is also evident by comparing the dissimilar responses given by the respondents who reported to be in the same financial situation. For example, of the respondents who reported to have filed bankruptcy or foreclosure in the past 12 months, there were more who said that they were, "very comfortable and secure," than there were who said they were, "in over our heads." That is why the model rejected these variables in predicting a respondent's financial situation.

While the regression models alone were not enough for determining financial fitness, they still provided some insight that is useful in answering other research questions in the future. Because the models do not directly measure financial fitness, there still exists the need for developing the Financial Fitness Index to measure the financial fitness of DON personnel. For the purposes of this research, it is concluded that the 14 financial fitness characteristics previously defined in the literature review should be used as the basis for measuring financial fitness in the future because they are well known in the PFM industry and would be easy to understand by DON leadership and PFM professionals. Table 9 outlines the 14 financial fitness characteristics developed in this research study.

Positive Characteristics	Negative Characteristics
Regular Financial Advice	Increased Debt
Investment Planning	Acquired Payday Loans
Retirement Savings	Misusage of Credit Cards
Routine Savings	Recently Denied Credit
Funded Emergency Fund	Accounts in Collections
Budgeting/Spending Plan	Skipped Payment
Bank Account Management	Recent Foreclosure or Bankruptcy

Table 9. 14 Financial Fitness Characteristics

2. How Does the Navy PFM Training Program Address the PFM Characteristics Identified in This Research Study?

Answering this research question required conducting a full review of the various integrated parts of the DON PFM program from the time that recruits join the Navy until the time that they retire or separate. This included a review of the training material available on the Navy Knowledge Online (NKO) website, analysis of the yearly financial General Military Training (GMT), review of the Command Financial Specialist (CFS) courseware, and a review of the financial training given in the Transition Assistance Program (TAP). A thorough review of these materials concluded that the current PFM program does cover all of the 14 financial fitness characteristics along with additional information in other PFM areas not included in the definition of financial fitness, for example, credit score management. The data analysis suggests that some Navy personnel would benefit from additional training in specific areas, particularly the positive financial fitness characteristics.

While the current PFM training program does address all of the 14 financial fitness characteristics using internet-based courseware, training briefs, and counseling sessions, it is unknown whether the training program contributes to personnel financial fitness because the survey data did not ascertain the respondents' level of financial training. Perhaps with more PFM training, the R-squared in the regression models would have been higher or fewer variables would have been found to be insignificant. At the very least, knowing the extent of PFM training for each respondent would have given researchers the ability to ascertain the extent to which the PFM training contributes to financial fitness.

The only variable that is similar to a question that could indicate the level of financial training is the Financial Advice variable. However, using the Financial Advice variable as a proxy for PFM training would have created more questions than it answered because of the negative correlation found between it and all of the other variables for both officer and enlisted personnel. In defining financial fitness, it was assumed that getting regular financial advice would have had a high correlation to the positive characteristics and a low correlation to the negative characteristics because all of the characteristics derived from the literature review have common usage in the financial advice industry. However, the negative correlation in the data suggests the exact opposite is true. A likely explanation is that the only personnel seeking advice are the ones that are having financial problems, and therefore, personnel are waiting until they have a problem to seek help. However, the definition of the Financial Advice variable recognizes that personnel should get financial advice as a preventative measure, regardless of their current financial situation.

Along with financial advice, the data suggests two other areas for improvement in training. One area for improvement in PFM training involves the Budgeting/Spending Plan characteristic (variable). Even though there was no data available to test this variable, when asked for solutions to financial problems, the majority of enlisted respondents did request assistance with budgeting (NPRST, 2011). Since the process of creating a budget and spending plan addresses all of the negative financial fitness characteristics, improving training in this area could also result in better FFI scores.

The data also suggests that there are some training issues with the TSP variable. Further analysis of the negative correlation between the enlisted TSP variable and Financial Situation variable reveals that of the 1440 enlisted personnel who contribute to TSP, 16-22% also responded negatively to the Regret Debt, Skip Bill, CC Usage, or PD Loan variables. This behavior is counterintuitive because it implies that these personnel are foregoing proper debt management in order to contribute to the TSP. This behavior was not found in the officer sample, but as previously discussed, the officers tend to forego TSP contributions for other types of savings. This explains the negative correlation between the TSP variable and Financial Situation variable and indicates that training in these areas could improve the number of positive responses to these variables.

These PFM weaknesses found in the data suggest that there are some areas in the PFM training program that could be improved upon in order to increase the financial fitness of all DON personnel. While all of the financial fitness characteristics are addressed by the PFM training program, it may be that they are not addressed often enough. Review of the yearly GMT training materials found that it typically includes training for only one or two of the characteristics per year. Perhaps yearly PFM training in all of the 14 financial fitness characteristics would lead to higher FFI scores for all DON personnel.

3. What Are the Differences Between Officer and Enlisted DON Personnel Regarding Financial Fitness Characteristics?

This research question was addressed and answered by analyzing the previously collected data from the 2011 Financial Health Quick Poll survey administered by NPRST and the FFI analysis. The methods used included correlation analysis and multiple regression of dichotomous variables.

The data shows that there are some differences in financial fitness characteristics between officers and enlisted personnel. According to the FFI data, the main difference between officers and enlisted personnel is that the officers display less of the negative characteristics as evidenced by the higher average FFI for officers and the higher median. The main similarity between officers and enlisted personnel is on the other end of the spectrum; they both scored poorly in all of the positive variables, FP Advice, Saving, and TSP. These three positive variables had a higher number of respondents answering "no" than any other variable, both officer and enlisted personnel. This could indicate the need for some adjustments to the PFM training program. Perhaps the training does a better job at educating personnel on what they should not do versus what they should do. When each variable was separated out and then analyzed on the basis of financial situation, it was expected that there would be some differences between officers and enlisted personnel, but yet they all responded similarly. This is also evident in the top four financial problems experienced by both groups, which include in descending order of number of respondents; denied credit, contacted by collection agents, unable to make payments, and pawned possessions (NPRST, 2011). Although the response rate was higher for the enlisted personnel, the order was the same for both officers and enlisted personnel. Identifying these similarities means that the PFM program does not need to address both groups differently and that any changes or improvements to the program will help both groups improve their overall financial fitness. The following sections will discuss recommendations from the data analysis.

F. RECOMMENDATIONS FROM THE DATA ANALYSIS

Most of the limitations in this research project stemmed from having incomplete data for testing all of the 14 financial fitness characteristics developed in this research project. This is due to the fact that the scope of the 2011 Financial Health Quick Poll survey was created to gain information about the financial stress levels and not specifically created to measure financial fitness. This research project was only able to correlate 10 of the 14 financial fitness characteristics to the survey questions in the previously administered survey. The four financial fitness characteristics that could not be tested were Bank Account Management, Investment Planning, Budgeting/Spending Plan, and Funded Emergency Fund, which are all positive characteristics. In order to complete future research into the financial fitness of DON personnel, the first recommendation is to include questions that pertain to all of the financial fitness characteristics. Furthermore, the questions in the survey were more focused on the negative aspects of financial fitness, such as denied credit, mortgage foreclosure, and collection calls. Since financial fitness is equally determined by the positive and negative characteristics, the questions in the survey should also address the positive and the negative aspects of PFM. The following sections provides recommendations from three areas that were gleaned from the data analysis, which include coding and scaling of the data variables, annual GMT, and the creation of an assessment tool.

1. Coding and Scaling of Data Variables

The first recommendation includes coding and scaling of data variables. The fact that the previously administered survey utilized multiple types of data contributed to the difficulty of the data analysis. Using all dichotomous variables would limit the need for recoding or inverse coding of the data in future research. Also, the ambiguous use of the phrase, "make ends meet" used in the responses for the financial situation question leads to ambiguous inferences from the data. If individuals are only able to make ends meet, it implies that they would not be able to absorb many near-term financial uncertainties. If the goal of the Navy is to ensure that DON personnel are prepared to handle future financial uncertainties, then personnel should be expected to do more than make ends meet. Another way to derive ratings from subjective questions in the survey would be to use questions that utilize a Likert-type scale. Using a scale like this will make future statistical analysis easier because the data will be more scalable when compared to the objective dichotomous data.

2. Annual General Military Training (GMT)

The second recommendation relates to the DON annual PFM GMT. As detailed in Chapter II of this research project, the DON conducts annual General Military Training (GMT) for all DON personnel and the current GMT program contains training on PFM. Every fiscal year, the PFM GMT varies from topic to topic and is never the same. The FY-13 PFM GMT is about debt management, which is an important topic to teach DON personnel. However, perhaps it would be more beneficial for DON personnel if all of the

14 financial fitness characteristics were taught every year. Teaching one or two characteristics per year is helpful, but it would be beneficial for DON personnel to review all of the 14 financial fitness characteristics every year. Reviewing all of the 14 financial fitness characteristics every year would possibly lead to higher and more improved FFI scores for DON personnel.

3. Creation of a Financial Fitness Assessment Tool

The third recommendation relates to the creation of a financial fitness assessment tool. The previously administered survey was not intended to measure the success of the Navy's PFM program, and therefore, did not include any questions that measure the extent of the respondents' PFM training. In order to assess the success of the DON PFM training program, it is recommended that DON include survey questions to measure the amount of training received by each respondent compared to the computed Financial Fitness Index scores. Another option to adding or changing questions in the existing survey is to create a standalone FFI assessment tool that could be easily and quickly administered by PFM trainers and unit level commanders for the purposes of periodically assessing financial fitness. This assessment tool would require about 15 questions, one question for each of the 14 financial fitness characteristics and one subjective question for measuring the financial situation. The results of this assessment tool would be comparable to the results found in the Financial Fitness Index section of the Data Analysis Chapter and would be helpful in identifying current PFM training strengths and weaknesses. This tool could also be used in future research involving the measurement and tracking of financial fitness, either in the other military services or in the private sector. The following section will detail a summary of this chapter.

G. SUMMARY

This chapter presented the results from the correlation analysis and multiple regression of dichotomous variables, developed the Financial Fitness Index (FFI), presented the relevant information used in answering the three research questions in this study, and made recommendations from the data analysis using data that had been previously collected in the 2011 Financial Health Quick Poll survey conducted by

NPRST and sponsored by OPNAV N17. These statistical techniques (correlation analysis and multiple regression) were used to compare how respondents subjectively reported to feel about their personal finances to specific objective financial data collected about the respondents in the same survey. The correlation analysis found that about half of the financial fitness variables are highly correlated to the respondents' financial situation and that some have a negative correlation, specifically the FP Advice variable. The correlation analysis also provided insight into the differences between DON officers and enlisted personnel with regards to 10 of the 14 financial fitness characteristics. The multiple regression analysis provided statistical evidence that some financial fitness variables have a bigger effect on financial situation than others, but the literature review confirms that all these variables have practical significance to financial fitness. This chapter also presented the findings from the Financial Fitness Index and provided evidence for using it as an objective measurement of financial fitness by comparing the results to the average reported financial situation. The results from each of these analysis methods were then used to answer the three research questions. Furthermore, recommendations from the data analysis were discussed. The next chapter, Chapter V, will provide a summary, present the conclusion, and discuss areas for further research.

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V. SUMMARY, CONCLUSION, AND AREAS FOR FURTHER RESEARCH

A. INTRODUCTION

This chapter will summarize what was discussed in each of the chapters of this research study. This chapter will also provide a conclusion addressing how the three research questions were answered in this research project. Furthermore, this chapter will discuss areas for further PFM research. The following section is a summary of this research project.

B. SUMMARY

In today's Navy, budget concerns are a part of everyday life. The Department of the Navy (DON), similar to many other government organizations, is more budget-constrained and faces an uncertain future, to some degree, with fiscal issues. With the real threat of government shutdowns, downsizing threats, furloughs, and possible changes in military retirement, DON personnel must utilize sound Personal Financial Management (PFM).

Chapter I of this research study included the research purpose, the background problem, research questions, objectives, and benefits and limitations of the study. Chapter II provided an extensive literature review of peer reviewed articles, GAO reports, RAND reports, and dangerous financial practices, detailed the need for DON PFM training programs, and identified the 14 financial fitness characteristics. Chapter II also presented a standardized definition for financial fitness. Chapter III described the methodology that was used for data analysis and developed the Financially Fit Index (FFI). Chapter IV presented the results of the data analysis that was used in answering the three research questions and provided recommendations based on this analysis. The following section discusses the conclusion of this research study.

C. CONCLUSION

This research study addressed and answered three research questions which are discussed next.

1. What Personal Financial Management Characteristics Contribute to the Financial Fitness of DON Personnel?

Answering this research question involved conducting an extensive literature review to determine the most important financial fitness characteristics and whether or not the DON PFM program provided training in these areas. The information researched in the review was used to define the term "financial fitness" and to ascertain the 14 financial fitness characteristics (Table 10).

The regression model analysis from Chapter IV determined that 5-7 of the 10 financial fitness variables tested were statistically significant in forecasting personnel's financial situation. Also of note was that only 28% of that financial situation could be defined by the multiple regression models. While the models were not enough for determining if DON personnel were financial fit, they provided insight that is useful to answer the other two research questions. Even though the models do not directly measure financial fitness, there is still a need to develop the Financial Fitness Index in order to measure the financial fitness of DON personnel. In this research study it was concluded that all the 14 financial fitness characteristics defined in the literature review are practically significant.

Positive Characteristics	Negative Characteristics
Regular Financial Advice	Increased Debt
Investment Planning	Acquired Payday Loans
Retirement Savings	Misusage of Credit Cards
Routine Savings	Recently Denied Credit
Funded Emergency Fund	Accounts in Collections
Budgeting/Spending Plan	Skipped Payment
Bank Account Management	Recent Foreclosure or Bankruptcy

Table 10. 14 Financial Fitness Characteristics

2. How Does the Navy PFM Training Program Address the PFM Characteristics Identified in This Research Study?

To answer this research question a full review of the various integrated parts of the DON PFM training programs was completed. A thorough review of the materials from Chapter II of this study concluded that the current DON PFM training program does address all of the 14 financial fitness characteristics along with additional information not included in the definition of financial fitness. The data analysis from Chapter IV suggests that DON personnel would benefit from additional training in the positive financial fitness characteristics including Routine Savings, Regular Financial Advice, and Investment Planning.

3. What Are the Differences Between Officer and Enlisted DON Personnel Regarding Financial Fitness Characteristics?

From Chapter IV, the data analysis illustrates that there are minor differences in the financial fitness characteristics between officer and enlisted DON personnel. The primary difference between officers and enlisted DON personnel is that officers display less of the negative characteristics. Another difference found between officer and enlisted DON personnel were with the sources utilized for PFM advice. The key similarity between officer and enlisted DON personnel is that they both scored poorly in all of the positive financial fitness variables to include FP Advice, Saving, and TSP. The following section will provide areas for further research.

D. AREAS FOR FURTHER RESEARCH

There are several areas for further research that were beyond the scope of this research study. The areas for further research fall into three main categories, which include testing of additional financial fitness characteristics, use of an FFI assessment tool around the fleet, and strategic management/culture change.

1. Testing of Additional Financial Fitness Characteristics

This research project was only able to test 10 of the 14 financial fitness characteristics because there was insufficient data collected in the previously conducted

2011 Financial Health Quick Poll survey. In the Data Analysis chapter, this research project recommended that follow-on surveys include questions that pertain to all of the 14 financial fitness characteristics. Further research could then be conducted to test all of the financial fitness characteristics using methods prescribed in this research project including testing of the ideal Financial Fitness Index. Gathering information on the level of respondent PFM training could also be used to identify any causal links between PFM training and financial fitness.

2. Use FFI Assessment Tool

As discussed in the survey recommendation section in Chapter IV, the information in this research project could be used to create an FFI assessment tool. The information gathered from the assessment tool could be used to conduct continuing analysis of DON personnel financial fitness. This type of research would include a comparison between DON personnel financial fitness and other military servicemembers and could include a comparison to a similar civilian sector metric for measuring financial health. This area for further research could also include research into the ability to track the PFM training that DON personnel receive along with personnel financial fitness. Research in this area would help DON leadership to determine if DON personnel were receiving effective training by tying training to personnel financial fitness.

3. Strategic Management/Culture Change

It is possible that the information in the PFM training program sufficiently trains DON personnel in all of the financial fitness characteristics but that DON personnel are not responsive to it. Further research into the strategic management aspects of the PFM program could be used to find more practical forms of implementing the program in promoting good financial fitness behaviors. This would most certainly entail interviews of DON leadership, PFM professionals, and DON personnel. Along those same lines, further research could address whether a culture change is necessary to increase financial fitness within DON. This would require significant adoption by senior DON leadership but might have a similar sweeping result as the Don’t Ask Don’t Tell Repeal

Implementation campaign conducted in 2011. The following section provides an overall summary of this research study.

E. OVERALL SUMMARY

This chapter summarized the five chapters of this research study, provided a conclusion to the three research questions, and discussed areas for further PFM research.

This research study first identified the background of PFM, the problem, purpose of research, the three research questions, six objectives, methodology, and benefits and limitations of the study. This included a literature review of peer reviewed articles, GAO reports, RAND reports, DoD Instructions, and other theses to identify the need for DON PFM training. The literature review in this study defined the term “financial fitness” and identified 14 financial fitness characteristics. The literature review also examined the current DON PFM training program in order to ascertain whether or not the training topics covered all of the financial fitness characteristics developed in the literature review. In addition, this study discussed the development of the Financial Fitness Index in order to assess the financial fitness of DON personnel. This required gathering PFM survey data from the 2011 Financial Health Quick Poll about DON personnel that was used to test the financial fitness characteristics of the FFI. Then this research study then correlated the individual survey questions to each of the financial fitness characteristics and the associated data was then recoded in order to apply statistical analysis methods which included descriptive statistics, correlation matrices, and multiple regression of dichotomous variables. The data analysis in this research project answered the research questions and provided recommendations regarding the DON PFM training program.

Appropriate personal financial management education is the key to understanding the importance of sound personal financial management. Therefore, it is crucial that DON continue to provide personnel with personal financial management training. The results of this research project will help DON leadership, PFM policy makers, and PFM professionals determine ways to provide effective and more focused PFM training, which includes the 14 financial fitness characteristics, in order to increase the overall financial fitness of DON personnel, the Navy’s most important asset.

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LIST OF REFERENCES

Arthur, S. & Rutherford, D. (2011, January 19). Six simple strategies to financial fitness. *Smart Investing Podcast*. Podcast retrieved from http://www.finra.org/investors/smartinvesting/gettingstarted/podcasts/moneymanagement/p123169

Autio, M., Wilska, T., Kaartinen, R., & Lahteenmaa, J. (2009). The use of small instant loans among young adults—A gateway to a consumer insolvency? *International Journal of Consumer Studies, 33*, 407–415.

Axelson, A. B., & Hatchings, H. C. (2013). Mortgage servicing developments. *Business Lawyer*, *68*(2), 571–582.

Bean, T. A. (2009). *Identity theft & protecting service members' social security numbers* (Master's thesis, Air Command and Staff College Air). Retrieved from http://www.au.af.mil/

Beutler, I. F., & Sahlberg, K. M. (1980). Spending plans and the family managerial decision process. *Advances in Consumer Research*, *7*, 480-485.

Brigham, E. F., Gapenski, L. C., & Ehrhardt, M. C. (1999). *Financial management: Theory and practice*. 9th ed. Orlando, FL: Harcourt Brace College Publishers.

Buddin, R., & Phuong Do, D. (2002). *Assessing the personal financial problems of junior enlisted personnel*. Santa Monica, CA: National Defense Research Institute, RAND. Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a405421.pdf

Carrell, S. & Zinman, J. (2013). *In harm's way? Payday loan access and military personnel performance* (Master's thesis, Dartmouth College). Retrieved from http://www.dartmouth.edu/

Center for Personal and Professional Development. (2012a, January). Lesson plan personal financial management. Retrieved from https://wwwa.nko.navy.mil/

Center for Personal and Professional Development. (2012b, July). *Training course control document personal financial management*. Retrieved from https://wwwa.nko.navy.mil/

Collins, J. M. (2012). Financial advice: A substitute for financial literacy [Abstract]? *Financial Services Review*. 21, 307–322.

Delafrooz, N., Paim, L. H., Sabri, M. F., & Masud, J. (2010). Effects of financial wellness on the relationships between financial problem and workplace productivity. *World Applied Science Journal*, *10*, 871–878.

Department of Defense. (2003, May). *DoD and Treasury announce financial readiness campaign* (Release No. 308-03). Washington, DC: Department of Defense. Retrieved from http://www.defense.gov/releases/release.aspx?releaseid=3809

Department of Defense. (2004, November). *Personal financial management for servicemembers* (DoDI 1342.27). Washington, DC: Department of Defense. Retrieved from http://asafm.army.mil/Documents/OfficeDocuments/FinancialOps/Guidances/usafincom/abp//dodi-134227.pdf

Department of Defense. (2006, August). *Report on predatory lending practices directed at members of the armed forces and their dependents*. Washington, DC: Department of Defense. Retrieved from http://www.defense.gov/pubs/pdfs/report_to_congress_final.pdf

Department of the Navy. (2006, December). *General military training (GMT) and Navy military training (NMT)* (OPNAVINST 1500.22F). Washington, DC: Department of the Navy. Retrieved from http://DONi.daps.dla.mil

Dew, J., & Xiao, J. J. (2011). The financial management behavior scale: Development and validation. *Journal of Financial Counseling and Planning, 22*(1), 63–79.

Dinesen, A. (2013, February 21). *How to get financially fit: Preparing for the what-ifs*. Retrieved from http://militarysaves.org/blog/240-how-to-get-financially-fit-preparing-for-the-what-ifs

Eccles, D., Goldsmith, E. & Ward, P. (n.d.). *Are you financially fit? A workbook to help you become and stay financially fit for life*. Retrieved from http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p122359.pdf

FINRA, (2013). *FINRA—Home page*. Retrieved from http://www.finra.org

Fisher, P. J., & Anong, S. T. (2012). Relationship of saving motives to saving habits. *Journal of Financial Counseling and Planning, 23*(1), 63–79.

Garman, E. T. (1999). Employee personal financial wellness and job productivity research is needed to convince top management to make the investment in workplace financial education. *Personal Finances and Worker Productivity*, 3, 65–68.

Government Accountability Office. (April, 2005). *Military personnel: More DOD actions needed to address servicemembers' personal financial management issues* (GAO 05-348). Washington, DC: U.S. Government Printing Office. Retrieved from http://www.gao.gov/assets/250/246138.pdf.

Government Accountability Office. (2006, May). *Military personnel: DOD has taken steps to address servicemembers' financial needs, but additional effort is warranted* (GAO-06-749T). Retrieved from http://www.gao.gov/products/GAO-06-749T.

Government Accountability Office. (2007, August). *Military Personnel: DOD's predatory lending report addressed mandated issues, but support is limited for some findings and recommendations* (GAO-07-1148R). Retrieved from http://www.dtic.mil/.

Hahndorf, F. R., & Riggio, J. J. (1984, June). *Financial planning and control for the military officer* (Master's thesis) (NPS-54-84-020).

Jennett, C., Brostoff, S., Malheiros, M., & Sasse, A. (2012). Adding insult to injury: consumer experiences of being denied credit. *International Journal of Consumer Studies, 36*, 549–555.

Klamper, Amy. (2006, October). *Adm. Mike Mullen wants to change the equation between commands and Sailors in financial straits*. Washington, DC: Department of Defense. Retrieved from http://www.navyleague.org/sea_power/oct06-12.php

Luther, R. K., Garman, E. T., Leech, I. E., Griffitt, L., & Gilroy, T., (1997). *Scope and impact of personal financial management difficulties of service members on the Department of the Navy*. Scranton, PA: Marywood University. Retrieved from http://www.dtic.mil

Marotta, D. J., (2011). Multiple accounts: An essential wealth management tool. *Hudson Valley Business Journal.*

Melzer, B. T. (2011). The real costs of credit access: Evidence from the payday lending market. *The Quarterly Journal of Economics*, *126*, 517–555. doi:10.1093/qje/qjq009

National Veterans Training Institute. (2012, October). Personal financial planning for transition. Retrieved from http://nlc.ucdenver.edu/DoDTransitionWorkingDocuments.htm

Navy Personnel Research, Studies, and Technology. (2011). 2011 financial health quick poll: Executive summary [PowerPoint slides]. Retrieved from www.nprst.navy.mil/

O'Neill, B. & Xiao, J. J. (2012). Financial behaviors before and after the financial crisis: Evidence from an online survey. *Journal of Financial Counseling and Planning*, *23*(1), 33–46.

Personal Finance@Duke. (2012). What is a budget and why is it important? Retrieved from http://www.personalfinance.duke.edu/manage-your-finances/budget/overview

Ramsey, D. (2013). The seven baby steps: Baby step 3. Retrieved from http://www.daveramsey.com/new/baby-step-3/

Sweet, M. (n.d.). Ask Experian: Deleting information. Retrieved from http://www.experian.com/credit-advice/topic-deleting-information.html

Tiemeyer, P., Wardynski, C., Buddin, R. (1999, June). *Financial management problems among enlisted personnel*. Santa Monica, CA: National Defense Research Institute, RAND. Retrieved from http://www.rand.org/pubs/documented_briefings/DB241.html.

The U.S. Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs). (2003). DOD and Treasury announce financial readiness campaign [Press release]. Retrieved from http://www.defense.gov/releases/release.aspx?releaseid=3809

United States Air Force. (2013, May). Personal financial readiness. Retrieved from http://www.afpc.af.mil/lifeandcareer/financial.asp

Virginia Society of Certified Public Accountants. (2007). A solid foundation: financial literacy facts. Retrieved from http://www.vscpa.com/Content/Files/vscpa/Documents/2010/Financial%20Fitness/LifeSkills_Financial%20Fast%20Facts.pdf

Yates, D., & Ward, C. (2012). Are your personal financial characteristics healthy? *Journal of Business & Economics Research, 10*(4), 225–232.

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