NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

EVALUATING THE NAVY'S ENLISTED ACCESSIONS TESTING PROGRAM BASED ON FUTURE TALENT NEEDS

by

Shereka F. Riley

March 2017

Thesis Advisor: Joseph Sullivan
Co-Advisor: Matthew Larkin

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704–0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.			
1. AGENCY USE ONLY ***(Leave blank)***	**2. REPORT DATE** March 2017	**3. REPORT TYPE AND DATES COVERED** Master's thesis	
4. TITLE AND SUBTITLE EVALUATING THE NAVY'S ENLISTED ACCESSIONS TESTING PROGRAM BASED ON FUTURE TALENT NEEDS			**5. FUNDING NUMBERS**
6. AUTHOR Shereka F. Riley			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			**10. SPONSORING / MONITORING AGENCY REPORT NUMBER**
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB number ____N/A____.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.			**12b. DISTRIBUTION CODE**

13. ABSTRACT (maximum 200 words)

In recent years, non-defense related industries and high-reliability organizations alike have emphasized positive teamwork traits as a part of their criteria for hiring high-quality applicants to maximize workplace efficiency. As a result of targeting these high-quality applicants and creating more efficient leadership training programs, these organizations have surpassed their competitors in their respective industries. Although the U.S. Navy is already considered to be a high-reliability organization, which is known for exceptionally high safety standards and performance, small inefficiencies in the areas of teamwork and leadership exist in the workplace.

This thesis conducts a gap analysis to gauge the applicability of the Navy's current accessions testing measures to its future recruiting needs. We found that the Navy is inadequately assessing applicant skills and attributes through its primary use of cognitive testing. Personality traits or non-cognitive traits testing may be used to help the Navy identify the appropriate recruits to compose high-performance teams, particularly in the enlisted ranks. Additionally, personality traits testing may be used for Navy officer accessions to help improve the quality of leaders.

14. SUBJECT TERMS navy recruiting, DOD, talent, talent management, teams, teamwork, leadership, personality traits, testing, cognitive, noncognitive, ASVAB, TAPAS, NCAPS, qualifications, ratings, occupational specialties, high-reliability organizations			**15. NUMBER OF PAGES** 89
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UU

NSN 7540–01-280-5500 Standard Form 298 (Rev. 2–89)
Prescribed by ANSI Std. 239–18

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

EVALUATING THE NAVY'S ENLISTED ACCESSIONS TESTING PROGRAM BASED ON FUTURE TALENT NEEDS

Shereka F. Riley
Lieutenant Junior Grade, United States Navy
B.A., Auburn University, 2013

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
March 2017

Approved by: Joseph Sullivan
Thesis Advisor

Matthew Larkin
Co-Advisor

Yu-Chu Shen, Academic Associate
Graduate School of Business and Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

In recent years, non-defense related industries and high-reliability organizations alike have emphasized positive teamwork traits as a part of their criteria for hiring high-quality applicants to maximize workplace efficiency. As a result of targeting these high-quality applicants and creating more efficient leadership training programs, these organizations have surpassed their competitors in their respective industries. Although the U.S. Navy is already considered to be a high-reliability organization, which is known for exceptionally high safety standards and performance, small inefficiencies in the areas of teamwork and leadership exist in the workplace.

This thesis conducts a gap analysis to gauge the applicability of the Navy's current accessions testing measures to its future recruiting needs. We found that the Navy is inadequately assessing applicant skills and attributes through its primary use of cognitive testing. Personality traits or non-cognitive traits testing may be used to help the Navy identify the appropriate recruits to compose high-performance teams, particularly in the enlisted ranks. Additionally, personality traits testing may be used for Navy officer accessions to help improve the quality of leaders.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

AFQT	Armed Forces Qualifying Test
ASVAB	Armed Services Vocational Aptitude Battery
BRS	Blended Retirement System
BUD/S	Basic Underwater Demolition/SEAL
C-SORT	Computerized-Special Operations Resilience Test
DEP	Delayed Entry Program
DOD	Department of Defense
GED	General Education Diploma
HPT	High-performance Team
HRO	High-reliability Organization
NACE	National Association of Colleges and Employers
NCAPS	Navy Computer Adaptive Personality Scales
NOS	Navy Occupational Specialty
NRC	Navy Recruiting Command
SWAT	Special Weapons and Tactics
SWO	Surface Warfare Officers
STEM	Science, Technology, Engineering, and Mathematics
TADMUS	Tactical Decision Making Under Stress
TAPAS	Tailored Adaptive Personality Assessment System
TSP	Thrift Savings Plan

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

To my advisors, Joseph Sullivan and Matthew Larkin, this road has been long and “paved” with a few roadblocks along the way—but I am glad you stuck with me through the process, Joe and Matt. You believed in me from the beginning and gave me the autonomy needed to do my project while providing useful tools to get the job done. I am forever grateful to you for taking this journey with me and wish you nothing but the best in the future.

To my family, words cannot describe how thankful I am to have a supportive family, so thank you, Riley family, for always loving me and encouraging me to do my best!

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. PURPOSE OF THE RESEARCH

The purpose of this research is to bring attention to the idea and potential importance of using personality traits' information as a mechanism for selecting recruits with the appropriate attributes for occupations with an emphasis on teamwork. If applicants can have their non-cognitive traits[1] properly inventoried, then recruiting personnel can help channel recruits into more fitting jobs per the occupational requirements highlighted by the Navy Recruiting Command (NRC). Additionally, the same idea can be used to help tailor job training for specific personality types. The Navy will benefit from having more satisfied Sailors who want to stay in to serve until retirement. Higher retention rates lead to more years of experience across all occupations, indicating higher job performance and better leadership and mentorship in the enlisted ranks.

This thesis serves as a gap analysis to determine if the Navy is missing out on valuable talent through its current accessions process, primarily in the way applicants are assessed for skills prior to enlisting. By comparing the information gathered from the Navy's existing applicant assessments to its existing qualifications in certain occupations, suggestions can be made to close the gap.

A. DEPARTMENT OF DEFENSE PERSONNEL POLICIES AFFECTING NAVY RECRUITING

High-reliability Organizations (HROs), which typically exist in dangerous industries, are known for exceptionally high safety standards and performance. Especially for organizations that do not equate profits to success, HROs set the standard for workplace efficiency. For these organizations, high-quality people

[1]Non-cognitive traits definition: Emma García states, "We define noncognitive skills as representing the 'patterns of thought, feelings and behavior' (as cited in García, 2016) of individuals that may continue to develop throughout their lives (as cited in García, 2016), and that play some role in the education process" (2016).

are the reason for organizational success, so managers tend to devote a great deal of attention to ensuring their personnel are adequately taken care of in regards to medical benefits, retirement plans, training and education packages and any other similar employment incentives. From an employer's standpoint, these personnel policies are constantly being improved across organizations and encourage a very competitive job market, where applicants have many employment opportunities. To keep up with the market changes, the Department of Defense (DOD) has adapted some of its personnel policies over the last year.

In hopes of cutting unnecessary costs and increasing program efficiency across the service branches, DOD has implemented a new retirement system for all personnel entering the Armed Services in 2018 and beyond. DOD also has a new talent management initiative to help with personnel accessions, training, and retention.

1. U.S. Uniformed Services Blended Retirement System

As of 2018, new recruits will be accessed into the Armed Services under a new pension system DOD is calling the Blended Retirement System (BRS) ("The Uniformed Services Blended Retirement System," n.d.).[2] This is a major change for personnel; the last overhaul to the military retirement system occurred in 1986. Benefiting about 19 percent of servicemembers, the old retirement system is only useful to members who serve 20 years or more, and the system has one standard formula for calculating annuity payments. The new system (BRS) features automatic, matching Thrift Savings Plan (TSP) contributions, mid-career compensation incentives, and monthly annuities for life. BRS is meant to benefit the majority of members who serve (about 85 percent) including personnel who serve less than 20 years ("The Uniformed Services Blended Retirement System," n.d.). Reasons for implementing the 401(k)-like component into the military retirement system include providing additional benefits that make for a more

[2] Additional information about BRS is listed in Appendix A.

competitive retirement plan, especially for those critical specialties such as those in the cyber and the medical career fields. The demand for such specialties seems to be on the rise in the private sector and the public sector due to an overall increase in life expectancy in American citizens (demanding more healthcare professionals to care for the elderly) (Lipstein & Kellermann, 2016) and the U.S. government's increasing use of information technology (which requires more cyber professionals) (Kay, Pudas, & Young, 2012). The widening gap between supply and demand for these career fields may pose a problem to the Navy's future ship increase.

2. Force of the Future

The Navy is expected to increase its ship numbers from 274 to 308 by 2021 and then to 355.[3] Congress and Navy leaders agree on the need for the Navy to be bigger and more innovative but disagree on the classes of ships needed for the future fleet (Freedberg Jr., 2017). Freedberg Jr.'s article does not mention the effects of increasing ship numbers on manpower, and it is problematic for stakeholders to assume manpower will remain the same due to the prominent technological changes included in the new ship classes. For example, sometimes new technology can lead to unexpected, rising costs:

> While the *Ford* has the same outer hull as the 1960s-vintage *Nimitz*, it has several revolutionary new systems inside, which have repeatedly struggled in testing. Last week, the Navy announced that testing would finally be finished and the *Ford* delivered to the fleet in April. To save cost and complexity, future *Ford*-class carriers will shed some of the high-tech systems, notably the radar. (Freedberg Jr., 2017, New & Troubled section, para. 1)

[3] According to Sean Stackley, Assistant Secretary of the Navy for Research, Development, & Acquisition, the U.S. has "hot production lines" that can produce the projected 355 ships. See http://breakingdefense.com/2017/01/build-more-ships-but-not-new-designs-cno-richardson-to-mccain/. Retrieved February 1, 2017.

There seems to be a perception among a few economists that technological advancements are indicative of manpower reductions (Dau-Schmidt, 2014). This notion may have been true decades ago during the industrial revolution, but today more technology could mean just the opposite. It is not clear whether Navy manpower will be increased or reduced in the future. A slight increase in manpower may be good to help with personnel workloads, but the idea is not very realistic in a fiscally constrained environment. On the other hand, if manpower is reduced, there will be major negative implications for fleet readiness if the ship numbers continue to increase at the projected rate. The effect of the increase in ship numbers may impact recruiting negatively because the population may not be able to support the market demand for critical positions, such as the ones mentioned in the previous section, and contingency plans should be made for when recruiting numbers dip and manpower requirements remain high.

One possible way to curtail the negative effects of manpower reductions is to assess and redefine the meaning of a high-quality recruit. Besides graduating from high school and being at the ideal age for military training, Armed Forces Qualifying Test (AFQT) scores, which are derived from the Armed Services Vocational Aptitude Battery (ASVAB), are the primary measurements used to distinguish high-quality recruits from other recruits. The Navy calls these high-quality individuals A-cell recruits (Pinelis, Schmitz, Miller, & Rebhan, 2011). Currently, the Navy relies on cognitive testing alone for Navy enlistment. Cognitive ability testing is defined as an assessment of abilities involving thinking, such as “reasoning, perception, memory, verbal and mathematical ability, and problem solving” (“Assessment & Selection,” n.d., Cognitive Ability Tests section, para. 1). Similarly, the Office of Personnel Management defines personality testing as a systematic way to extract information about a person’s motivations, preferences, interests, emotional make-up, and style of interacting with people and situations (“Assessment & Selection,” n.d., Personality Tests section, para. 1).

3. Talent Management

The enlisted rating modernization plan that emerged toward the end of 2016 gives Sailors more opportunities to acquire unique skills and to be promoted in the Navy, allowing them to have a broader range of professional experience and expertise (Chief of Naval Personnel Public Affairs, 2016) in accordance with the DOD-wide talent management initiative. Secretary of the Navy, Ray Mabus, stated:

> In modernizing our enlisted rating system we are not only giving our Sailors increased opportunities within the Navy, such as a higher level of flexibility in training and detailing, but also increasing their opportunities when they transition out of the service. In aligning the descriptions of the work our Sailors do with their counterparts in the civilian world, we more closely reflect the nation we protect while also making it easier for our Sailors to obtain the credentials they'll need to be successful in the private sector. (Chief of Naval Personnel Public Affairs, 2016, para. 3)

The rating modernization plan "is about giving Sailors more choice and flexibility and ultimately providing the Navy opportunities to get the right Sailors with the right training and experience in the right billets" according to Master Chief Petty Officer of the Navy, Steven S. Giordano (Chief of Naval Personnel Public Affairs, 2016, para. 6). The Navy is seeking more ways to improve Sailor job-fit.

Since the rating modernization plan roll-out, each Navy rating is now classified under broader Navy Occupational Specialty (NOS) codes. NOS selection is now based on ASVAB line scores, which are derived from ASVAB subtests, rather than on the overall AFQT scores. The new system utilizes ASVAB categorical scores relevant to the skills used in each NOS, therefore facilitating job selection and creating a more accurate job skills match for Sailors. The rating modernization plan has since been modified, keeping the overarching intent of the policy, which is to help Sailors in their professional endeavors inside or outside of the Navy but cancelling actions regarding the NOS code nomenclature due to the expressed fear of erosion of Navy culture and tradition by active duty service members and veterans alike.

4. Implications of Policy Changes on Navy Recruiting Environment

As a normal part of their job, Navy human resources professionals are relied upon to make every effort to create a more efficient personnel accessions model for future years to come. NRC is preparing to take on future challenges such as the uncertainty of identifying talent[4] in applicants (or essentially redefining what a high-quality recruit is) and recruiting from a youth population that has an eroding interest in military service. The Center for Naval Analyses (2015) states that high school graduates are more likely to be unavailable for enlistment immediately after graduation due to college enrollment, and fewer youth may view the military as an attractive career path due to the looming idea of slower military pay growth and pay reductions compared to previous years. These things alone can justify the characterization of the Navy as being in a global "war for talent."[5]

B. BACKGROUND

> The knowledge existed in informal networks, but was never captured in the training evaluation process. Selecting and qualifying a trainee of questionable character could lead to costly mistakes with far-reaching implications. And, on the other hand, failing highly skilled trainees for minor physical shortcomings could hinder the SEAL's ability to carry out the most sensitive operations. (Rao, Bowen, & Lopez, 2014, p. 8)

The Navy SEALs are undoubtedly an elite fighting team that thrives on a very arduous training selection process. Usually, only about 20 percent of

[4] The uncertainty of identifying talent means the direction of defense is uncertain. Even though cyber attacks have been on the rise in recent years, it is not the only skill the Navy needs to be a successful sea service. The current personnel accessions model may not be ideal for the changing (future) defense environment; therefore, human resources professionals should always question their own methods and seek new ways to improve them.

[5] The term "war for talent" describes the competitive environment created in the business world as a result of priorities shifting from tangible assets, machines, to intangible assets, people (Michaels, Handfield-Jones, & Axelrod, 2001). Beechler & Woodward (2009) mentions how globalization has introduced a new element to the competition by connecting individuals to employers across continents.

candidates who begin the Basic Underwater Demolition/SEAL (BUD/S)[6] class actually complete it (as cited in Rao et al., 2014). The two situations described in the previous quotation are classified as '"type 1" and "type 2"' selection errors (see Chapter IV) (Rao et al., 2014).

The U.S. Navy as a whole is dealing with a very similar personnel error issue: selecting applicants who appear to be highly-skilled but do not necessarily have a taste for the military or who show a lack of interest in their chosen occupational specialties vs. filtering out applicants who possess qualities that are highly valued by many employers (including the Navy) but cannot enlist due to a "minor failure" during the selection/accessions process.

All applicants come with different cognitive and non-cognitive abilities, and employers must be able to identify these abilities in order to place employees in roles where they are most effective. For instance, the ability to work effectively in a team environment is one of the most sought-after qualities in job applicants today (Casner-Lotto & Barrington, 2006; Ju, Pacha, Moore, & Zhang, 2014). When discussing team composition, it is important to understand that all team members do not necessarily contribute equally to the team (Li, Zhao, Walter, Zhang, & Yu, 2015), so the team still has a chance at delivering high performance, even if all the team members are not stellar in every area of assessment. The research by Li et al. shows there are individual affects that are sometimes distinguishable from the rest of the team (2015). This indicates that an individual with a really strong ability in a certain trait may compensate for the individual(s) with weaker abilities when comparing matching traits. This theory may hold true for certain tasks (Barrick, Stewart, Neubert, & Mount, 1998). Individual personality traits associated with increased teamwork performance have been identified in notable studies (Barrick et al., 1998).

[6] BUD/S is the first part of SEAL training, lasting about 24 weeks. Upon completion of BUD/S candidates move on to SEAL Qualification Training (SQT) which lasts several months. After successful completion of these phases, graduates are assigned to specific SEAL teams (Rao et al., 2014).

Teamwork ability is one of the many personality traits that should be of concern to Navy recruiting as a means to increase workplace efficiency,[7] and DOD has a line of personality tests that can be used by the Navy to help conduct teamwork research.

C. STATEMENT OF THE PROBLEM

The policy discussion up to this point is to provide an overview of the Navy recruiting environment. This thesis is not based directly on any of the previously mentioned policies, but rather seeks to focus on programs within enlisted Navy recruiting.

Another way of stating the inefficiencies suspected in the Navy accessions process is that Navy recruiting is filling certain ratings (occupational specialties) with over-qualified individuals, and other ratings are being filled with under-qualified individuals. NRC should evaluate the entire accessions process and standards after scrubbing the list of Navy ratings, which is being done in accordance with the rating modernization plan, to ensure applicants are presented a realistic view of the qualifications associated with each occupational specialty.

For example, not all occupations within the military deploy or see combat zones. Occupations without sea-going billets, typically referred to as support roles (like administrative roles), do not necessarily require highly physically fit people. To offer another example, occupational competence and desirable personality traits are most important for certain jobs at sea (O'Daniel, 2012). Meanwhile, certain physically demanding, high-risk jobs are filled with individuals simply because they have high AFQT scores. There may be nothing wrong with that, but problems could arise when a very smart individual becomes a burden to

[7] "Efficiency in the workplace is defined by the work or tasks completed in a single workday by a single employee, or by the work completed by a department or team in a given time period" (Jane, n.d.). Retrieved from http://smallbusiness.chron.com/create-efficiency-workplace-22333.html.

the team because of his/her inability to meet certain physical demands, which were not adequately tested for in the initial job selection process. These examples may appear to be very minuscule, generalized, and mostly dealing with physical demands, but they are there to illustrate the point about the Navy's overwhelmingly outdated accessions process. The tests used in the accessions process should be directly applicable to the tasks associated with each occupational specialty.

A more advanced approach to accessions should lay the foundation for the new era of Navy talent management, and the Navy has assessment tools at its disposal that are not in official use by NRC. Today, only one cognitive test, the ASVAB, is given to applicants for entry into the enlisted ranks, then applicants are deemed qualified and assisted by recruiting personnel to select jobs at the time they decide to join the Navy.[8] Applicants are presented with a list of available ratings or occupational specialties that they may qualify for. Sometimes additional qualifications[9] must be met before an applicant can be assigned to certain ratings. During this process, assessing an applicant's personal attributes beyond the capabilities of the existing accessions test is in the hands of the recruiting personnel who have access to the Navy occupational specialty or rating assignment database. Recruiting personnel in these positions rely on basic job descriptions for each occupation, their own career experience, and sometimes a detailed list of qualifications or attributes as aids to advise applicants on their Navy career and job suitability. The job selection process described here is adequate as is, but there are areas of this process that can use some improvements.

Even though the job market is very competitive, NRC continues to recruit talented, high-quality individuals. Contrary to the popular manpower economics

[8] Selection of occupation typically occurs at the Military Entrance Processing Station with the facilitation of Personnel Support Specialists and/or Navy Career Counselors.

[9] A few examples of the list of additional qualifications are discussed further in Chapter III.

theory regarding the effect of unemployment rate on recruiting high-quality personnel into the Armed Services (Dale & Gilroy, 1983), and taking into consideration the "war for talent," the Navy does not have an issue with attracting bright recruits at this time. As a matter of fact, many Navy applicants score 65 or better on the ASVAB these days, which means on average more high-quality applicants are joining the Navy.[10] The Navy is meeting its recruiting goals, but NRC is still looking for ways to improve the accessions process to help move the Navy toward a more efficient workforce (Cheney and McNinch, 2017). Identifying the specific talents and personality attributes within an individual is not an easy task, but when the Navy does figure it out, it will be fruitful. Most work in the Navy is a team effort, and the Navy is in need of a more standardized approach to creating highly effective teams. Therefore, through a more efficient workforce and improved teamwork effectiveness, workplace efficiency will be increased.

D. RESEARCH QUESTIONS

- What do existing DOD and Navy accessions tests measure?
  - Do the tests measure teamwork abilities?
- Are there benefits to be realized by assessing teamwork attributes during the accessions process?
  - How can DOD and the Navy inventory teamwork abilities?
- How can existing tests be used to create tailored training for Navy personnel?

E. HYPOTHESIS

If the Navy implements non-cognitive testing measures as an additional accessions tool, then it can increase teamwork effectiveness in multiple career fields such as medical support, culinary specialties, and administrative support.

[10] Information from a January 2017 recruiting brown bag presented at Human Resources Center of Excellence, Monterey, CA, by Captain Eric Cheney (United States Navy), Navy Recruiting Command (NRC) Chief of Staff and Susanne McNinch.

F. ORGANIZATION

Chapter I provides background information and introduces the problem. Chapter II is a review of the literature. Chapter III shows the gap analysis. Chapter IV is a workplace efficiency discussion composed of more than four case studies. Chapter V acknowledges the limitations of the research. Chapter VI goes through the conclusions from the gap analysis and other research. Chapter VII lists the recommendations for further research.

G. CHAPTER SUMMARY

This thesis uses qualitative research to help NRC with talent management by investigating the usefulness of identifying applicants' non-cognitive traits to aid in the selection of Navy recruits to compose highly effective teams, which should add to increased workplace efficiency.

THIS PAGE INTENTIONALLY LEFT BLANK

II. LITERATURE REVIEW

A. INTRODUCTION

A review of the literature suggests that identifying skills other than cognitive abilities has emerged as an effective way of predicting performance outcomes in the workplace as well as composing teams and predicting job suitability. The literature also indicates a gap between employers' expectations of skills in an employee versus applicants' perceptions of skills deemed important by the employer.

B. EMPLOYER EXPECTATIONS

1. Employability Skills

In a survey of over 400 employers across the U.S., teamwork is a skill that ranks high at all levels and in all types of occupations (Casner-Lotto & Barrington, 2006). Teamwork was among the skills employers considered essential for all entry-level employees (Ju et al., 2014). Studies show college graduates are more confident in their soft skills, which also includes ability to work in teams, but research shows there is a widening gap between what employers expect—soft skills and traditional hard skills critical to professional success—and what college graduates actually offer (Stewart, Wall, & Marciniec, 2016). If this problem truly exists, further training may be necessary for recruits whose chosen occupational specialties require more seasoned teamwork skills. However, the Navy should have no issue attracting individuals who have the basic ability to work in a team environment. The Navy can provide effective teamwork training to close the gap.

2. Effective Teams

Businesses today use collaboration as a primary tool to accomplish tasks in the workplace, and social interdependence and teamwork have been linked to team and business success (Tarricone & Luca, 2002) (see Appendix B). Barrick

et al. (1998) observed 51 work teams on team composition, team process, and team outcomes. Their findings include:

> One important practical implication is that selecting team members with higher levels of GMA, conscientiousness, agreeableness, and emotional stability may enhance team performance on additive tasks. Team viability may also be enhanced to the extent that aggregate levels of team-member extraversion and emotional stability lead to higher levels of social cohesion. (Barrick et al, 1998, p. 389)

The team attributes research from Barrick et al (1998) can be used as a starting point for which attributes to look for in team member selection. The traits such as conscientiousness, agreeableness, and emotional stability can be measured using DOD's existing tests, which will enable Navy researchers to identify the recruits who are good candidates for occupational specialties involving teamwork.

C. TEAM COMPOSITION

1. Team Composition and Operationalization Methods

Individual studies in team composition research have largely reported results focusing on one operationalization approach, average team effects, which can lead to potential undetected relationships between important elements (Barrick et al., 1998). Barrick et al. did not make direct hypotheses about relationships between the operationalization of each trait and team effectiveness; however, the group compared multiple operationalizations to include: mean score, variance score, minimum score, and maximum score.[11] Each operationalization was selected based on the contextual application of the group work.

[11] For more information about operationalization methods, see: Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of applied psychology*, *83*(3), 377.

2. Taxonomy of Tasks

One aspect of team performance to consider is the taxonomy of tasks relating to group process and productivity, which is noted as:

> This taxonomy distinguishes between (a) additive tasks, which require the summing of resources for performance (e.g., moving a heavy object), (b) compensatory tasks, which require that individual inputs be averaged together to arrive at a team outcome (e.g., forecasting sales for a new product), (c) conjunctive tasks, which require each group member to perform at a minimally acceptable level for the team to succeed (e.g., assembly lines), and (d) disjunctive tasks, which require only one team member to perform well in order for the team to succeed (e.g., problem solving). (Steiner, 1972, as cited in Barrick et al., 1998)

The type of task must always be considered in measurements of performance or task completion. Otherwise, researchers may not be able to effectively and accurately compare job performance across different types of jobs. Not all research involving team performance distinguishes between tasks, which can be misleading because interpretation of the performance results may be skewed.

In accessing individuals for certain occupations, the teamwork attributes required and level of effort of each team member may actually differ across each occupation. For example, serving food in a line is like a conjunctive task because one person can hinder the line from progressing. In conjunctive tasks, every member must perform at a certain minimal level for the whole team to succeed. On the other hand, figuring out a diagnosis and finding a remedy is more like a disjunctive task. Although the process may involve a team, only one person could be used to solve the problem while the other team members do nothing at all. The team can either fail or succeed because of one individual. Both of these examples are very different but show how individuals can affect overall team performance either positively or negatively. Therefore, the requirements for the combination of teamwork attributes and job skills in individuals must be tailored for the task types within each occupation.

3. Individual Contributions on Team Performance

Li et al. (2015) studied the individual contributions of team members on team performance, which is also in alignment with operationalization method maximum and minimum. The results of the study by Li et al. show individuals do not always contribute equally to team performance, as much research in this arena suggests due to the averaging of certain traits on the outcome (2015). Li et al. use the term “extra-miler” as a way to describe an individual who positively influences the team outcome above and beyond the influences of all other team members (2015).

4. Team member Diversity

Another important characteristic for team composition research is member diversity.

> Considering the influence of time as well as the influence of perceived versus actual diversity, Harrison, Price, Gavin, and Florey (2002) found that the influence of surface-level differences (e.g., gender, race) on team performance decreases over time, whereas the effects of deep-level factors (e.g., beliefs, norms) is strengthened. As such, Harrison and colleagues suggest maximizing variation in individual KSAs [Knowledge, Skills, and Abilities] and taking efforts to minimize deep-level differences to improve team effectiveness. (Salas, Shuffler, Thayer, Bedwell, & Lazzara, 2015, p. 13)

The deep-level differences as described by Salas et al. (2015) can cause team performance to be affected greatly over time. Because the Navy values positive team performance, it would be wise to access applicants who already match the Navy’s core values as opposed to relying on training to completely mold applicants’ character.

D. IDENTIFYING POTENTIAL SKILLS/TALENT IN APPLICANTS

Support for measuring personality traits as a way of identifying valuable employees has been evident for some time. Hogan, Hogan, and Roberts (1996) conclude:

> well-constructed measures of normal personality are valid predictors of performance in virtually all occupations, they do not result in adverse impact for job applicants from minority groups, and using well-developed personality measures for preemployment screening is a way to promote social justice and increase organizational productivity. (p. 469)

Companies have been using personality screenings to hire employees for years and many have been successful in doing so. If the Navy wants to add another factor to further distinguish its high-quality recruits from the rest, then personality testing may be helpful.

1. Non-cognitive Skills and Personality Traits

Researchers have found evidence that supports the theory of non-cognitive factors, namely the Big Five traits, playing a significant role in determining job selection inside or outside of the military (Pema, Mehay, & Tick, 2016). Pema et al. used a micro-level data set of Navy applicants who initially applied to the Navy but eventually chose other (civilian) career paths to expose suggested links between personality traits, job match expectations, and career choice (2016).

The Big Five Traits are extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (Stark et al., 2014; Pema et al., 2016). These five terms, sometimes the names vary by researcher (Cherry, 2016), are a way of categorizing the many ways to describe an individual's personality into five neat dimensions. According to Cherry, the behaviors of individuals possessing these traits are described as such: 1) extraversion is high when a person is outgoing and thrives in social situations, 2) agreeableness is high when a person is more cooperative with others, 3) conscientiousness is high when a person is mindful of details with good impulse control and goal-oriented behaviors, 4) neuroticism or emotional stability is high when a person tends to have volatile mood changes, and 5) openness is high when a person is more adventurous, creative, and more non-traditional (2016).

Non-cognitive skills, such as conscientiousness and agreeableness, have predictive power for successful performance in the workplace (Sackett & Walmsley, 2014; Barrick & Mount, 1991). Agreeableness more so predicts success in occupations with specific criteria (Barrick, Mount, & Judge, 2001). Personality measures are predictive of labor outcomes and workplace performance (Fletcher, 2013; Mattern et al., 2014). The link between these personality traits and workplace performance has initiated employers' interest in personality traits testing.

a. Non-cognitive Skills and Personality Traits Testing

Recent studies suggest non-cognitive factors can help predict training completion as well as many other aspects of the accessions and training continuum: "Higher levels of emotional self-awareness, self-actualization, reality testing, stress tolerance, happiness, and approach to problem solving best differentiated graduates from nongraduates. The results of the study suggest such areas of functioning are important for training success" (Chappelle et al., 2015). Like the attributes mentioned at the beginning of the effective teams section, certain non-cognitive factors can help predict work-related outcomes including training outcomes.

b. Personality Traits Testing in the Military

The newest addition to the DOD's line of non-cognitive testing, sponsored by the Army, supports the theory of personality traits being a viable method for predicting recruits' behaviors (Stark et al., 2014). The Tailored Adaptive Personality Assessment System (TAPAS) measures 18 of the 27 personality dimensions (Stark et al., 2014). Longitudinal research is taking place for predicting technical proficiency and general soldier proficiency along with achievement and leadership, maintaining personal discipline, physical fitness, and military bearing (Stark et al., 2014).

TAPAS was introduced to the Navy in 2011 as a method to collect personality traits data on cohort samples of recruits entering the Navy from 2011

to 2013. Turpin (2014) examined the non-cognitive characteristics in recruits that help predict Delayed Entry Program (DEP) attrition. The retention criteria studied in this sample include factors for organizational commitment and separation status. The findings from Turpin's research will facilitate screening individuals for low motivation and low performance in the future (2014). The factors that were found to be significant in the study, which were derived from the TAPAS, include: dominance, intellectual efficiency, and order. These were found after controlling for waivers, which was the best at predicting Delayed Enlistment Program (DEP) attrition. Although none of these factors is exclusive to military culture, they are very important in determining an applicant's taste for the military.

E. CULTURAL FIT AND JOB SUITABILITY

For startup companies, "cultural fit" is very important when it comes to hiring new employees (Yeung, 2013). Although the Navy is far from being classified as a startup company, it may be helpful to take a closer look at certain hiring practices to identify areas for improvement and take the steps necessary to improve those areas. Startup companies typically do not have a lot of funds to waste. Therefore, more time and attention must be spent to ensure all resources are used efficiently and effectively. Otherwise, the startup company can go under very quickly. There is a sort of employee efficiency that is created in startups that stems from employee cultural fit.

Cultural fit remains an important concept throughout the life of an organization. When employees can identify with the culture of the organization in which they work, it leads to positive outcomes such as more enjoyable work environments and increased teamwork, information sharing, and openness to new ideas (Goffee & Jones, 1996; Sadri & Lees, 2001). There may be factors within organizational culture that have a stronger impact on employee attraction and retention than positive job performance itself (Sheridan, 1992; Greger, 1999). The Navy has a unique military culture, and many of its traditions differ from the other service branches. For example, the informal Navy slogan, "Join

the Navy and see the world" is a great example of how Navy personnel promoted Navy culture, which in the past helped the Navy appeal to recruits who wanted to travel widely. The cultural appeal approach can still be used but perhaps in a different way, such as using personality testing measures as a tool to help not only with predicting applicants' taste for military life but also for predicting suitable job fit. Sheridan suggests that organizational cultures that value interpersonal relationships in the workplace are more attractive to professionals than cultures focusing on work task values (1992). Perhaps more high-quality individuals will be willing to enter the Navy if existing servicemembers promote a culture of teamwork. "Managers may be well advised to foster cultural values that are attractive to most new employees rather than be concerned with the selection and socialization of particular individuals" (Sheridan, 1992). Greger (1999) also suggests "losing the template," meaning organizations should stop creating policies to make employees "fit" the organization and focus on creating a positive culture instead. Greger explains a positive corporate culture as "one in which there is a clear vision from the top as to the business objectives, but there also is a recognition, respect and sensitivity regarding the fact that it is people who get the job done" (1999). These ideas rival the other cultural fit research compiled within this thesis, but they are essential to include in the background of the analytical portion of this work.

1. Navy Occupational Culture

Like a startup company, or, indeed, any company, the Navy does not have resources to waste and must allocate recruiting and training funds in the most efficient way possible based on the operational requirements of the organization. Workforce efficiency can be advanced by minimizing losses created by cultural fit errors. Therefore, hiring or accessing only the people who deeply desire to be in the organization can work to the Navy's advantage.

There are obvious cultural differences between the Armed Services and most other civilian occupations. There are also differences when comparing

different service branches of the military, and the list continues all the way down to occupational sub-cultures in the Navy. The Navy is best characterized for the average enlisted Sailor as a career dominated by duty at sea mixed with occasional shore tours. Sailors are expected to do more with less[12] as a result of the budgetary constraints prevalent in most government operations. Workdays are sometimes extended to meet mission requirements, and living arrangements are not always conducive to team cohesion, especially during deployments. These things lead to increased personnel stress-levels, which can warp the work environment and create lasting negative effects on organizational culture.

a. Dealing with Job Stress

Stress in the Navy work environment is essentially unavoidable due to the ever-changing, uncertain nature of national defense. In 1991, the Office of Naval Technology sponsored a program called Tactical Decision Making Under Stress (TADMUS) that studied officers' decision making in low-intensity conflict. The objective of TADMUS was "to aid decision making in situations that happen to be stressful, rather than to reduce the stress" (Riffenburgh, 1991). The study used a team of experienced officers to assign numerical values based on the ranking of actions deemed important given the tactical context (1991).[13] Based on Riffenburgh's explanation of the objective, the main concept to note is: TADMUS provided those officers who participated in the study with experience in the form of training, which is expected to give them a better sense of calmness and confidence in a similar low-intensity conflict situation in the future.

This is one example of a situation where the Navy has successfully utilized the study of human factors to create complementary processes and technologies to improve the effectiveness of teams operating in the Navy workplace environment and coping with its unique characteristics. Even though

[12] Do more with less is a common phrase used to describe completing more work or meeting more objectives with the use of less resources.

[13] For this thesis, the results of TADMUS are not extremely important.

the TADMUS study is based on officer decision making, one important thing to take away is personnel training and exposure to stressful situations (similar to ones experienced in the work environment of each team or individual) can be just as helpful as figuring out how to manipulate the work environment through the use of more technology. New technologies tend to take long periods of time for research and development and are often riddled with unexpected issues (kind of like the environment experienced during military conflicts), which is why personnel must be selected carefully and trained appropriately.

Additionally, a study on stress among special forces police officers (2014) found that personality factors affect the level of strain induced by environmental stressors (Garbarino, Chiorri, & Magnavita). Key findings include: Low emotional stability was the strongest factor of the Five-Factor Model associated with most of the stress variables measured. Garbarino and colleagues also noted, "agreeable individuals may experience less work stress because they gain adequate rewards and have high social support from co-workers and superiors" (2014). Employee cultural fit provides benefits for individuals that may also be beneficial to the organization as a whole.

F. HIGH-RELIABILITY ORGANIZATIONS

Certain industries are known for maintaining extraordinarily high safety levels. A few industry examples are commercial air travel, nuclear power plants, and amusement parks (Chassin & Loeb, 2013). One thing each of these industries has in common is that they all have reasonably dangerous work environments. The safety standards of the organizations within these industries have led researchers to adapt and apply similar methods in other industries that lack high reliability, like healthcare (Chassin & Loeb, 2013).

High-reliability organizations rarely have significant accidents, and if they do have an accident, they are proactive in analyzing and identifying weaknesses in procedures to reduce the risk of future mishaps (Chassin & Loeb, 2013). HROs rely on the entire organization to point out small things that can lead up to

safety failures (Chassin & Loeb, 2013). Chassin and Loeb discuss three major domains as a way of achieving high reliability in healthcare organizations: leadership, safety culture, and robust process improvement (2013).

G. CHAPTER SUMMARY

There are a few items of note from the literature review that are essential to the foundation of this thesis. Many successful businesses (HROs included) rely on collaboration as the primary means to get things done in the workplace. Therefore, employers expect to hire applicants who can work effectively in teams above all other skills. Composing effective teams is a very complex project, and hiring professionals must take into account factors such as: how performance will be measured, the type of tasks the team needs to complete, how individual contributions affect the team, and how diversity affects the team. Organizational culture and occupational culture have major impacts on individual employees, which can determine their quality of contribution to the team or even their decision whether to stay with the organization. The Navy work environment is inherently stressful, so it requires individuals who can handle tasks and make decisions in high-pressure environments. Researchers recognize that there are specific personality traits associated with successful performance in the workplace. In the teamwork context, research evidence supports the exploration of personality traits testing to compose effective teams. Barrick et al. (1998) found that teams exhibiting higher levels of general mental ability, extraversion, and emotional stability received higher supervisor ratings for performance and vitality. DOD has developed a number of non-cognitive tests to mainly help with understanding recruit DEP attrition, but the organization is continuing to study the effects of recruit personality traits on different career outcomes.

THIS PAGE INTENTIONALLY LEFT BLANK

III. GAP ANALYSIS

A. INTRODUCTION

This chapter measures the applicability of the Navy's current accessions testing program by comparing the additional attributes sought after for three different enlisted ratings to the attributes measured in the ASVAB. The ASVAB is deemed useful for measuring the basic cognitive qualifications for enlistment. However, there are more than a few attributes or qualifications that are not being captured through the use of the existing cognitive accessions test (ASVAB). The Navy should look for new ways of measuring these additional attributes in order to increase Sailor job-fit. The research on high-reliability organizations recognizes teamwork as the most common way to achieve organizational success. Therefore, this chapter will attempt to find out whether the Navy is equipped to compose the enlisted teams needed for overall success or not. Because very little research has been done on the applicability of existing Navy accessions tests to the occupational specialties offered in the fleet, a gap analysis will be conducted to help answer the research questions mentioned in Chapter I. The pertinent questions for this chapter are:

- What do existing DOD and Navy accessions tests measure?
  - Do the tests measure teamwork abilities?

1. What Is a Gap Analysis?

The objective of a gap analysis is to identify missing elements of a process by comparing the present state to the ideal state. The missing element then becomes the focus for future solutions to bridge the gap between the two states. A gap analysis is fitting for this thesis because the hypothesis recognizes possible areas for improvement of the current Navy accessions process, specifically in personnel testing and selection. In this thesis, an assessment of the Navy's existing accessions testing program will be conducted to identify the

gaps, so action may be taken to rectify any inefficiencies found in the accessions testing process.

B. EMPLOYABILITY SKILLS DESIRABLE FOR NAVY ENLISTMENT

There is no defined list of employability skills desirable for Navy recruits at this time, so a list of ten skills promoted by the National Association of Colleges and Employers (NACE) Job Outlook 2014 will be used to emphasize the skills employers seek to find in potential employees. The list of job skills is as such:

Job Skills Ranking

1. Work in a team structure
2. Make decisions and solve problems
3. Communicate verbally with people
4. Plan, organize and prioritize work
5. Obtain and process information
6. Analyze quantitative data
7. Technical knowledge related to the job
8. Proficiency with computer software programs
9. Create and/or edit written reports
10. Sell and influence others

("What Happens After the Test?," n.d., Idea Sheets section)

The list was found on the ASVAB Career Exploration Program[14] website, and is intended to be used as an informational tool for educators to help empower students to choose careers that align best with their interests and skills. It is hard to believe that the ASVAB still predicts success in career fields outside of highly

[14] The ASVAB CEP encourages high school students to explore different career paths inside and outside of the Armed Services through ASVAB administration and career interest inventory tools. Retrieved March 3, 2017, from http://www.asvabprogram.com.

technical ones because the majority of the ASVAB subtests are technically inclined. The NACE list highlights very general skills expected of entry-level employees, while the ASVAB measures skills in very specific areas, focusing heavily on technical subjects. The only items listed in the NACE Job Outlook that may possibly be measured during the ASVAB are (2) Make decisions and solve problems and (5) Obtain and process information. Two other items, (6) Analyze quantitative data, and (7) Technical knowledge related to the job, may be measured by the ASVAB; however, their accuracy depends on the types of questions given to each tester. Determining the applicability and accuracy of the last two items mentioned would need to be on a case-by-case basis.

There may be links between the skills on the NACE Job Outlook list and the cognitive skills assessed in the ASVAB, but without more detailed information about what each ASVAB subtest actually measures it is nearly impossible to determine the applicability of the test to the skills desired by most employers based on the descriptions of each subtest. The ASVAB subtests will be discussed in greater detail in Section J.

C. GENERAL QUALIFICATIONS FOR NAVY ENLISTMENT

Navy enlistment requires a high school diploma or General Education Diploma (GED), a favorable background check, and a favorable medical exam. Applicants must be at least age 17 (with parental consent) and no older than age 34.[15] In addition to these things, applicants must meet the AFQT score minimum for enlistment and assignment to an occupational specialty. Each applicant's AFQT score, a percentile score ranging from 1 to 99, is calculated using the scores derived from four ASVAB subtests: Arithmetic Reasoning, Mathematics Knowledge, Paragraph Comprehension, and Word Knowledge (Talboy, 2011).

[15] This list was truncated because it is not the focus of this research. The complete list may be found on the official Navy recruiting page. See https://www.navy.com/navy/careers.html . Retrieved March 3, 2017.

D. IDENTIFYING SKILLS/TALENT IN NAVY APPLICANTS

The Navy has more than 10 career fields in STEM (Science, Technology, Engineering, and Mathematics) as well as non-STEM areas for enlisted recruits to choose from. The career fields include: Arts and Media, Aviation, Business and Legal, Chaplain and Support, Engineering and Applied Science, Healthcare, Information and Technology, Nuclear Power, First Responders, and Special Operations.[16] Each of these career fields requires a different set of individual attributes for applicant selection. The following section lists a few examples of the attributes required of specific Navy ratings.

E. QUALIFICATIONS FOR NAVY RATINGS

The selection of the three Navy occupations—medical support, culinary specialties, and administrative support—used in this analysis is based on the type of additional skills required of these positions that may not easily be measured using current accessions tools. In addition to the basic enlistment requirements (according to the official recruiting website for the Navy), the qualifications recommended for these specific occupations are listed as such:

1. Medical Support

> A high-school diploma or equivalent is required to become an Enlisted Sailor in the medical support field in the Navy. It is required that those seeking a Hospital Corpsman position be U.S. citizens and should have a sincere interest in providing general health care. They must relate well to other people and work well as a part of a team. Candidates should have good communication skills, writing and arithmetic ability, manual dexterity, and a good memory. They should be dependable, trustworthy, resourceful, and have a background or interest in the sciences. Other important qualifications are competence with tools, equipment/machines, physical stamina and the ability to do repetitive tasks without losing interest. Any illegal involvement with drugs may be disqualifying.

[16] Information about Navy occupation qualifications and requirements was found on the official Navy recruiting page. See https://www.navy.com/careers/ . Retrieved January 29, 2017.

("Careers & Jobs: Medical Support," n.d., Qualifications & Requirements section, para. 1)

2. Culinary Specialist

A high school diploma or equivalent is required to become an Enlisted Sailor in the Food, Restaurant and Lodging field in the Navy. Those seeking a Culinary Specialist (CS) position must be U.S. citizens, good team workers and enjoy working with people. Good arithmetic and verbal skills, creative ability and an interest in nutrition and culinary arts are also helpful. ("Careers & Jobs: Food Services & Hospitality," n.d., Qualifications & Requirements section, para. 1)

3. Yeoman (Administrative Support)

A high-school diploma or equivalent is required to become an Enlisted Sailor in the office and administrative support field in the Navy. Those seeking a Yeoman position must be U.S. citizens who can meet eligibility requirements for a security clearance. They should also be people-oriented and enjoy working as part of a team assisting others and be able to clearly communicate ideas and information orally and in writing. Typing skills are mandatory. A typing test is required during training. ("Careers & Jobs: Office & Administrative Support," n.d., Qualifications & Requirements section, para. 1)

It appears that the staffing of these occupations requires an assessment of applicants' skills beyond the capabilities of the current accessions testing method (i.e., ASVAB). It is extremely important for recruiting personnel to be given useful tools to facilitate the occupation selection process without recruiting personnel invoking undue bias on applicants based on personal preferences or differences in opinions. "Clear objectives" (Greger, 1999) are necessary for promoting a positive corporate culture. If Navy recruiters are not given clear objectives, in this case: an accurate list of measurable applicant qualities based on Navy occupational performance standards, for selecting applicants with the appropriate attributes for each Navy occupation, then poor organizational culture and poor Sailor job fit will continue, continuing the cycle of DEP attrition and early separation and increased personnel costs.

F. ACCESSIONS TESTING MEASURES (COGNITIVE)

There are numerous tests that measure cognitive ability to predict outcomes for specific types of training available to servicemembers (officers and enlisted). The various cognitive tests range from testing basic knowledge in general science, arithmetic reasoning, word knowledge, paragraph comprehension, mathematics knowledge, electronics information, auto information, shop information, mechanical comprehension, and assembling objects[17] to testing ability/capacity to learn other languages. The test given to all enlisted applicants, the ASVAB, is the only test mentioned in this section because the other cognitive tests available are only applicable for special cases.

1. ASVAB

Enlisted applicants who have never served in the military before are given an entrance test, the Armed Services Vocational Aptitude Battery (ASVAB),[18] to gauge their aptitude for certain types of work. In 1968, DOD introduced the ASVAB as a way to predict academic and occupational success. The ASVAB is administered on the computer, which is adaptive, or with paper and pencil. (See Figure 1 for ASVAB subtests and categories.)

G. OTHER TESTING MEASURES (NON-COGNITIVE)

DOD has been interested in the use of personality traits as predictors of performance since the 1940s (Stark et al., 2014). So far, no military service branch has implemented non-cognitive testing as an official accessions method. The following sections explain the newest personality traits tests in use by the DOD.

[17] Assembling Objects available only on the Computer Adaptive (CAT) ASVAB.

[18] ASVAB student website, Background section. Retrieved March 17, 2017, from http://www.asvabprogram.com/student-program.

1. NCAPS

The Navy Computer Adaptive Personality Scales (NCAPS) measures 19 personality dimensions (Stark et al., 2014). NCAPS was designed based on "content analysis of several well-known inventories [and] job analyses of all entry-level Navy enlisted positions" (2014) in addition to research conducted by Booth-Kewley, Larson, Alderton, Farmer, and Highfill-McRoy (2009) on training resilience (Stark et al.). The specific traits correlated with military training resilience found by Booth-Kewley et al. include: achievement, orientation, adaptability/flexibility, attention to detail, commitment, dependability, dutifulness/integrity, empathy, initiative, innovation, leadership, perceptiveness/depth of thought, positive self-concept, self-control, self-reliance, social orientation, stress tolerance, tolerance for ambiguity, willingness to learn, and vigilance (2009) (see Appendix C). NCAPS uses unidimensional pairwise preference, which "consist[s] of pairs of statements representing the same personality dimension but differing in extremity" (Stark et al., 2014). For example, the test may use the terms strongly like and strongly dislike as two different extremes. NCAPS is a computer adaptive test, but it can be used in a non-adaptive format, as well (Houston, Borman, Farmer, & Bearden, 2006).

2. Where is NCAPS Currently Used?

NCAPS is a non-cognitive traits inventory that was developed to aid in selecting and classifying enlisted Sailors for specific jobs (Houston et al., 2006). Since the initial phases of NCAPS in 2006, the test has gone through several other developmental phases to improve its validity. Stark et al. claims NCAPS is being used by the Navy to select training assignments for Special Operations personnel (2014). Perhaps a use for NCAPS could be found in other Navy communities.

3. TAPAS

The Tailored Adaptive Personality Assessment System (TAPAS) is also a non-cognitive traits inventory, but it is sponsored by the U.S. Army. As mentioned

in the literature review, TAPAS measures 18 personality dimensions and 22 personality factors derived from the Big Five including physical conditioning (see Appendix D). TAPAS uses multidimensional pairwise preference as a mechanism to combat dishonesty: “In each item, two statements are chosen to be fairly similar in social desirability and extremity to enhance resistance to faking” (Stark et al., 2014). TAPAS seems to be slightly more sophisticated than the Navy’s NCAPS test.

4. Where is TAPAS Currently Used?

TAPAS has been used in recent years to help applicants determine if Army life is suitable for them (Vergun, 2015). Additionally, the results from TAPAS have helped in the study of attrition rates (Stark et al., 2014; Turpin, 2014). More research is being conducted to establish alternative uses for the TAPAS like in assigning special-duty (Stark et al., 2014; Vergun, 2015). According to an Army reporter, David Vergun, Army researchers are hoping to use TAPAS for Army-wide talent-management in the near future (2015).

5. Where Else can Non-cognitive Testing Be Useful?

Even though it may seem that DOD has exhausted its use for non-cognitive testing, it may be possible to use information from individual personality inventories to increase workplace efficiency through carefully crafted work teams. Determining which applicants possess the ideal combination of teamwork attributes may be facilitated with the use of these existing tests.

H. PRESENT STATE

The present state of the analysis is characterized as: many Sailors having limited skills on paper and some Sailors being selected into occupational specialties that do not align with their personal interests. Most importantly, Navy recruiting may not be using the most effective tools possible to select enlisted applicants. There is too much room for personal bias to creep into the current process of measuring the additional criteria listed for each occupational specialty.

I. IDEAL STATE

The ideal state of the analysis is: a workforce with adequately measured skills properly annotated and tracked in a personnel database. Navy recruiting personnel would have a more standardized, unbiased way of measuring the skills not captured by the ASVAB.

J. IDENTIFYING THE GAP

The three career fields evaluated in this chapter are medical support, culinary specialties, and administrative support. Each of these career fields require one or more qualifications that cannot be measured by the ASVAB (see Table 1 for a list of the qualifications). The highlighted attributes in the table are associated with personal preferences and character traits. The top attribute on each of the lists is the same as what is expected in the private sector of business (see Appendix B and Chapter III, Section b). This type of inefficiency may be a small issue to some organizations, but establishing a standard approach to measuring these attributes can help bridge the gap.

The qualifications listed in Table 1 are missing a standard assessment approach. The highlighted attributes are areas that may possibly be measured using existing DOD assessment tools. The first attribute on each of the lists is teamwork. The ASVAB does not measure this attribute because the ASVAB primarily tests cognitive ability (see Figure 1), and the teamwork attribute is currently considered to be a non-cognitive trait. Therefore, it is currently up to the Navy career counselors or other recruiting personnel to judge if the applicants interested in these positions meet the criteria. This creates inefficiency in the accessions process because of the varying perceptions and personal biases of the recruiting personnel. Even though the career counselors are trained for this process, they are not exempt from making decisions based on outside influences that are not meant to interfere with the process. For example, when the recruiting team is on the verge of missing its goal, a career counselor may be pressured to

turn a blind eye to certain things, allowing ill-suited individuals into these occupational specialties.

Table 1. Additional Qualifications for Navy Ratings.
Adapted from Careers & Jobs (n.d.).

Medical Support[19]	Culinary Specialist	Yeoman (Admin Support)
• Relate well to others/Work well as a part of a team • Good communication skills • Mental Dexterity • Good Memory • Various "Good Character" Traits[20] • Background/Interest in the Sciences and Healthcare • Competence with tools and equipment • Physical Stamina • Task repetition without losing interest	• Good team worker/Enjoy working with people • Good verbal skills • Creative ability • Interest in nutrition/culinary arts	• People-oriented/Enjoy working as a part of a team • Enjoy assisting others • Clearly communicate ideas (orally and in writing) • Typing skills are necessary (trainable)

Qualifications that may be measured by the ASVAB have been omitted from the list.

[19] This rating includes a disqualifier, which is any illegal involvement with drugs.

[20] "Good Character" Traits for this rating include: dependable, trustworthy, and resourceful.

Figure 1. ASVAB Subtest Areas. Source: Segall (2004).

Subtest	Abbrev.	Construct
General Science	GS	Knowledge of physical and biological sciences
Arithmetic Reasoning	AR	Ability to solve arithmetic word problems
Word Knowledge	WK	Ability to select the correct meaning of words presented in context and to identify best synonym for a given word
Paragraph Comprehension	PC	Ability to obtain information from written passages
Mathematics Knowledge	MK	Knowledge of high school mathematics principles
Electronics Information	EI	Knowledge of electricity and electronics
Auto Information	AI	Knowledge of automobile terminology and technologies
Shop Information	SI	Knowledge of tools and shop terminology and practices
Mechanical Comprehension	MC	Knowledge of mechanical and physical principles
Assembling Objects	AO	Ability to figure out how an object will look when its parts are put together

1. Attributes Not Measured by Current Accessions Test (ASVAB) that can Be Measured by Non-cognitive Tests

When comparing the qualifications and requirements for medical support, culinary specialists, and administrative support positions in the Navy to the skills measured in the ASVAB, it becomes evident that non-cognitive traits are not assessed during the test.[21] Occupations such as medical support and culinary specialists, which require additional interpersonal skills and other traits, are lacking a standardized approach to effectively test applicants for job suitability. Existing non-cognitive tests, such as the TAPAS or NCAPS, can be useful in matching recruits to specific career fields and occupations based on individual test results.

[21] See ASVAB subtest content in Figure 1.

K. BENEFITS OF USING NON-COGNITIVE TESTING TO IDENTIFY TALENT OR HIGH-QUALITY APPLICANTS

1. Less Attrition and Separation due to Increased Fit

Companies tend to benefit from acquiring employees who fit in with the company culture because those individuals typically stay with the company longer than employees who do not fit in. Therefore, identifying personality traits early in the accessions process could be a promising way of predicting an individual's commitment and cultural fit for Navy life. It is imperative to begin with a base of recruits who have a taste for the military, which can possibly be assessed using non-cognitive tests. Over time each command will sustain groups of high-quality Sailors to uphold the core values and create workplace environments that foster individual growth and continued commitment to the defense of our nation.

More specifically, the Navy may find value in accessing individuals who have a natural inclination towards military life, which encompasses order, self-discipline and upholding the core values such as honor, courage and commitment. These types of traits are not visible to the naked eye and should be assessed upfront because Navy life and culture are so different from other jobs. If personality traits information is not used in an official capacity, it will still be useful for understanding recruits' attitudes and learning preferences for training purposes. The information that the DOD personality tests provide can possibly help predict the amount of time needed to adjust to Navy life, for example.

This type of cultural fit may prove especially beneficial during times of tough fiscal constraints because it costs $17,344[22] on average to replace a Sailor. According to most human resources professionals, the rule of thumb for replacing an employee is about one year's salary. These things will help shape

[22] In 2007 dollars. Mehay, S., & Webb, N. J. (2007). Workplace drug prevention programs: does zero tolerance work?. *Applied Economics*, *39*(21), 2743–2751.

the force structure because high-quality applicants tend to gravitate toward jobs that are meaningful to them (Carroll & Hatch, 2015). Retention rates will also be affected by these factors. Increased retention rates are good for the Navy because it typically means the benefit of the skills and experience compounding within the Sailors who continue to serve outweigh their past training costs.

2. Better Team Leader Selection

Current leaders and future leaders can be trained on how to compose High-performance Teams (HPTs). The personality tests can be used as an aid for leaders who may need additional help with personnel selection.

Carefully selected leaders can lead to better performing teams, and personality traits testing can act as an additional screening tool for this process, as well. Although the literature does not cover much information about leadership traits, existing personality tests can help DOD in the identification and selection of future leaders. Stark et al. (2014) mention leadership as one of the factors of interest to researchers who designed the current TAPAS test.

3. Enhancing Teamwork Effectiveness through the Implementation of Personality Traits Testing

Based on the Taxonomy of Tasks (as cited in Barrick et al., 1998) and evidence from Li and colleagues' Extra-miler theory (2015), there is more room for useful research in the creation of effective teams. Additionally, Stark et al. (2014) conclude TAPAS can possibly be used in the creation of HPTs. The Navy should consider adopting one of the non-cognitive tests DOD currently has to document recruits' personality traits for future use in either the creation of HPTs or for channeling recruits into training programs that are more suitable for their personal learning styles.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. CASE STUDY DISCUSSION

A. INTRODUCTION

This chapter introduces more than four[23] case studies as way to inspire the creation of a realistic solution to the problem studied in this thesis. The cases cover a variety of issues encountered in personnel management and development. The format of this chapter is a synopsis of each case study followed by key points to take away from each study.

B. WORKPLACE EFFICIENCY: CASES FOR CONSIDERATION

1. Case Study No. 1—Leadership Development at Goldman Sachs

Prior to November 1999, senior leadership at the investment bank Goldman Sachs used apprenticeship as the only tool necessary to develop its junior associates for current and future leadership positions within the company (Groysberg, Scott, & Lane, 2005). Senior leaders and juniors were matched up one to one, and senior leaders spent a reasonable amount of time mentoring and teaching juniors the Goldman Sachs culture, which was characterized as a high-tempo, high-performing team environment. The company boasted excellence in the investment bank industry, and it attracted exceptional undergraduates and masters of business administration. The apprenticeship training method was highly effective until the bank tripled in size. The senior leadership at Goldman Sachs had to find a way to supplement and enhance the existing leadership training to cope with the influx of new junior hires (Groysberg et al., 2005).

Goldman Sachs executives studied other companies of related and unrelated industries to solve the issue they were facing with leadership development in 1999 (Groysberg et al., 2005). The inception of Pine Street Leadership Development Group came about after conducting intense leadership

[23] Hillmann et al. (2015) is a compilation of six small cases.

development research within successful companies of various industries. The senior leaders at Goldman Sachs modeled their own training center after a few best practices acquired from visiting the 14 companies. To increase their chances of success, senior leaders decided to customize the training specifically for their organization rather than taking pre-packaged ideas directly from the other 14 companies. They were uncertain that the results of the proposed changes would be positive because designing an effective training program and/or institution is a very complex task (Groysberg et al., 2005).

The Navy can also use this method, studying companies in outside industries, as a catalyst to explore new ways to train personnel. Utilizing a diverse group of industries as champions for development programs and even recruiting would be worthwhile for the Navy because the organization has so many diverse functions in support of one ultimate mission. Navy leaders are always looking for innovative ways to improve processes for Sailors, and most of the time the data will not be available to validate the new ideas and technologies before the planning and implementation process. That is why gathering cases from other companies for certain “best practices” can prove to be highly-effective, like in the Goldman Sachs case. The process can then be scaled to meet the needs of specific communities within the Navy or other DOD organizations.

2. Case Study No. 2—Motorola U: When Training Becomes an Education

Motorola, essentially what most people would describe as a telecommunications technology company, realized in the early 1980s that in order to not only survive the upcoming years but to thrive, its workforce needed to make a few changes to how it did business (Wiggenhorn, 1990). At the time, Motorola’s executive leadership wanted to shift the company’s focus from merely meeting shipping goals to placing its highest priority on quality control, which would enable it to reduce waste (avoiding shipping defective products). This change was to provide a higher quality product to customers while

simultaneously exceeding shipping goals—which is defined as Lean Six Sigma in the business industry (Wiggenhorn, 1990).

To accomplish this goal, the top executives decided to make changes to Motorola's existing training programs (Wiggenhorn, 1990). The results that stemmed from the initial changes were not successful, and the leadership decided to examine its employees more closely. Commitment to lifelong learning and wide-spread illiteracy (which seem to be an oxymoron) were uncovered among the manufacturing employees to the extent of 60 percent. Some of the illiteracy was due to immigrant employees' poor performance on a seventh-grade English and Math survey, but the majority of them were exceptional manufacturing employees that the company's leadership did not want to abandon (Wiggenhorn, 1990).

After attempting to change the hiring criteria, Motorola discovered that the existing talent pool was just as illiterate as the company's existing manufacturing employees (Wiggenhorn, 1990). Motorola created a corporate training partnership in response to this issue, starting in the city of Chicago. The company leadership partnered with existing educational institutions in the area to create curricula that were relevant to the work being done in the respective industry. The partnership produced success for the company, and the local educational institutions thrived due to the mutual benefits each party experienced in the coming years (Wiggenhorn, 1990).

Before the early 1980s, the only requirement to be hired as a manufacturing employee was willingness to work (Wiggenhorn, 1990). The requirements quickly changed for manufacturing employees as technology advanced. All employees had to understand increasingly involved processes and had to be able to troubleshoot problems on the assembly line. Motorola never assigned blame for why its workforce was illiterate, and its leadership knew that developing the employees that were accessible at the time was the key to the company's survival (Wiggenhorn, 1990).

Parallels can be drawn to the Navy and DOD, in general, regarding the existing talent pool. The main difference is that military recruiting deals with issues other than illiteracy due to the nature of the national defense environment. The main point to take away from the Motorola case is how certain non-cognitive characteristics identified in individuals, which may not be measured by a test, can prove to be very valuable to the Navy and DOD.

3. Case Study No. 3—Navy SEALs: Selecting and Training for an Elite Fighting Force

The Navy already has a very efficient model for selecting individuals to form elite, effective teams, such as the Navy SEALs. Navy SEAL teams are known for fulfilling missions that only close-knit, well-organized teams can do. Teamwork effectiveness is one derivative of training efficiency. Currently, the selection process to enter into training for the Navy SEALs has been described as none other than a grueling process. The major areas of focus for entry into SEAL training include outstanding physical fitness and ASVAB performance ("Enlisted SEAL Requirements," 2017). One other major requirement is a mental toughness test called the Computerized-Special Operations Resilience Test (C-SORT). C-SORT is designed to assess a prospective SEAL candidate's mental toughness or resilience. The test includes multiple sections designed to assess a prospective candidate's abilities in three areas such as:

- Performance strategies
- Psychological resilience
- Personality traits

("Enlisted SEAL Requirements," 2017)

There is a large amount of attrition during Navy SEALs training, but that is expected for elite programs such as the SEALs. There are many good aspects that can be taken from the way the Navy operates its Navy SEALs training program. The exact process may not be suitable for regular Navy recruiting, however, the C-SORT system is one that should be examined further to see if

other non-cognitive tests, such as the TAPAS, may help with fitting the right people to the right jobs.

Although the Navy SEALs are very efficient at creating highly effective teams, two types of errors exist within the current system that leaders would like to further minimize (Rao et al., 2014). A '"type 1"' error occurs when someone who would have been a good SEAL is cut from training and a '"type 2"' error occurs when someone who is not well suited to be a SEAL passes training (Rao et al., 2014). These errors are unavoidable because no system is perfect, but understanding the dynamics of these errors is important while striving to create high-performance teams and organizations.

4. Case Study No. 4—When Failure Isn't an Option

In 2005, six professionals with experience in developing and managing HPTs came together to offer their perspectives on the subject of ensuring high performance in teams (Hillmann et al.). The professionals came from a broad range of industries like Special Weapons and Tactics (SWAT), event planning, NASCAR, fire response, banking, and professional football (Hillmann et al., 2005). It may seem as if these industries are so different that they cannot possibly have relatable team concepts, but the teams highlighted in this case actually share similar practices. Some common trends emerging from the entire case study include: selection of team members is important, teams without formal leaders create informal leaders, and pressure can help induce "peak short-term performance," (Hillmann et al., 2005) but teams can get burned out if operating at peak performance for too long. There are a few unique contributions from the individual teams that are worth mentioning, as well.

Certain job tasks need to be trained for, so little to no time is needed to respond to an emergency, such as in the firefighting field (Hillmann et al., 2005). Similarly, team members must be empowered to make decisions through changing contexts. Sometimes situations arise where a team member must go against the normal way of doing things—proper training will help alleviate stress

and confusion in addition to enhancing team cooperation and effectiveness (Hillmann et al., 2005).

The banking case involved setting up a joint bank reconstruction team in Afghanistan after the Taliban's fall in the early 2000s (Hillmann et al., 2005). The author of the banking case expressed that as the team leader he had to ensure communication took place. He also stated, "As work progressed, it became clear that familiarity with the country was less important than teaming up with Afghans who possessed deep knowledge of the way the country operated" (Hillmann et al., 2005). Bridging connections and including outside experts in the team can enhance performance. Team members must be open and willing to connect with and collaborate with people who may not necessarily share the same viewpoints as them. This act is a derivative of extraversion and other personality traits, which may prove to be helpful especially in military settings.

Successful teams have coaches who are mindful of the individual needs and interests of each team member (Hillmann et al., 2005). A coach's knowledge of an individual can help build up the individual's confidence, which is essential during the process of goal achievement (Hillmann et al., 2005). Using the cases on developing and managing teams, the Navy can take similar approaches on personnel management to close the gap created in the accessions and development processes. In fact, the U.S. Army took a few things from the NASCAR perspective to train teams of medical corpsmen for operations in combat environments (Hillmann et al., 2005).

C. CHAPTER SUMMARY

The case studies in this chapter are all unique and provide different perspectives on dealing with personnel selection, development, and management. One common theme among the cases is teamwork. Teams can be successful if care and attention are taken to craft the team according to the goal at hand as opposed to forcing individuals into roles that are not applicable to their skillsets. A one-size-fits-all approach may be effective as long as it is accurately

adapted for specific goal attainment. Although it may not be explicitly stated in the case study text, the leaders of those teams understood the elements of team composition and task types as mentioned in the works of Barrick (1998) and others (as cited in Barrick et al., 1998).

THIS PAGE INTENTIONALLY LEFT BLANK

V. RESEARCH LIMITATIONS

A. INTRODUCTION

This chapter recognizes that the research and analysis within this thesis are not perfect. It is not possible to know the applicability of existing DOD personality tests to the general qualifications listed as a point of reference for future applicants. The point of this analysis was to figure out if there is a gap in the accessions testing program. There is indeed a gap, even if it is a small one. Recommendations for fixing the gap are made in Chapter VII.

The gap analysis highlights the need for measuring certain non-cognitive traits, but the question remains of how specific qualities can be measured using the existing personality traits tests. A testing expert, perhaps one with a psychology or education background, can be helpful in answering the previous question. It would be careless to match up specific teamwork attributes, for example, from the three ratings used in the gap analysis to the facets tested in the TAPAS or NCAPS because the job is best suited for an expert in the field. The following sections entail other limitations to the research.

B. TALENT AND TALENT MANAGEMENT DEFINITIONS

The practice of talent management can be very subjective. While most human resources professionals would agree on the importance of employee management, talent management has a wide range of definitions. While examining various definitions of talent management, Lewis and Heckman (2006) point out how the apparent similarity of managing employees masks the issue that the different definitions used in their research have different focuses, such as an outcome, a process, or a decision.

This thesis mentioned one talent management policy, which arguably may be very shallow, at the beginning and made assumptions about the Navy's future talent needs based on information obtained from media sources. For example, the underlying assumption about the new high-quality recruit being the team-

player and one who has a taste for the military or Navy life is a big assumption. However, the point of this thesis is not necessarily about defining what new talent is but to look into the current status of how the Navy measures qualified applicants.

C. LIMITED NON-COGNITIVE TESTING DATA (TO DATE)

Non-cognitive or personality traits testing is still new to DOD compared to the length of time the ASVAB has been in place. Because of the time shortage, there is limited reliable data on personality traits testing. DOD has plans for analysis on longitudinal data, but unfortunately, enough time has not passed to recognize the outcomes. It is doubtful that DOD will modify a practice without good reason and/or useful data to support it. Therefore, it is imperative to continue researching the topic of non-cognitive traits.

D. CHAPTER SUMMARY

Based on the few points made in this chapter, this thesis does not go into depth on some of the major issues. This thesis does not find a solution to the issues it brings light to, but hopefully it serves as a precursor for similar studies in accessions testing and talent management.

VI. CONCLUSIONS

This thesis sought to find useful information to help with increasing Navy workforce efficiency by minimizing “type 1” and “type 2” selection errors, specifically with the use of personality testing in the Navy.

Employers today expect applicants to have certain types of work skills based on their level of education and so does the Navy. The specific lists of skills expected may not match perfectly from organization to organization, but most agree that teamwork ability is a rather valuable trait in employees. These organizations have derived significant benefits through the emphasis of teamwork in the workplace.

Based on the cases used in this thesis, high-performance team composition can be a very complex task. The key to ensuring successful selection of team members requires leaders or coaches who know and understand the work environment and the context and skills required for goal achievement. Additionally, leaders must be able to motivate their teams to accomplish the short-term and long-term goals set before them. Leaders set the standards for what they need in a team and are ultimately responsible for the team’s actions whether good, bad, or otherwise.

The Navy already has a successful way of identifying talent, but the continued success of the current accessions process becomes more and more uncertain as the Navy evolves to meet tomorrow’s missions and challenges. Determining the applicability of existing accessions tests to the types of individuals needed in the Navy is the first step to ensuring continued success.

THIS PAGE INTENTIONALLY LEFT BLANK

VII. RECOMMENDATIONS

This thesis was a simple investigation, by way of a gap analysis and case study discussion, to identify missing pieces to the enlisted accessions testing program. Throughout the process of constructing this thesis, enlisted entrance testing and occupational qualifications standards have been the focus, but the case studies and previous literature suggests the focus should have been on officer accessions and leadership qualities instead. Finding a solution to the gap in Navy enlisted accessions testing does not end there, however.

Although DOD and the Navy have been making changes and implementing new ideas in recent years to improve the pool of applicants appealing to the Armed Services, the Navy still has minor inefficiencies in the accessions process that should not be overlooked. The hypothesis mentioned in Chapter I is promising yet deemed inconclusive because it requires further (qualitative and quantitative) research to accurately determine its feasibility.

Leadership attributes are not mentioned much in the qualifications of the ratings chosen for this analysis, but the traits measured in the existing personality tests may be linked to successful leaders—officers and enlisted. Further research is recommended to redefine the Navy's idea of high-quality recruit.

Ultimately, NRC cannot control the quality of applicants that come into the Navy. Just because more applicants are scoring higher on the ASVAB and the same applicants possess the ideal attributes for a specific job does not mean that the applicants will automatically be successful in the Navy. There normally is a combination of factors in a person's life that must line up to produce success in any job (or anything a person chooses to do). Within reasonable limitations, the best thing NRC can do is hope for applicants who require the least amount of change, and train them to be who the Navy needs them to be.

The last and probably the most critical area for further research is in the selection of Navy officers. There have been several alarming incidents in recent

years, due primarily to leadership failures, especially among Surface Warfare Officers (SWOs). Selection of these leaders should be the highest priority because officers are the ones who make policies, set leadership examples, and oversee the composition of the high-performance teams that are needed so badly in the Navy. Unlike the enlisted side, officers do not have an official entrance test. Officer applicants only test when applying to certain occupational communities. Currently, an officer interview is the main method of assessing an applicant's character and personality traits in order to determine his or her suitability for service as an officer. More checks should be put in place to ensure the Navy is getting the right people it needs to fulfill these critical roles.

APPENDIX A. BLENDED RETIREMENT SYSTEM FAQS

Frequently Asked Questions Regarding the New Blended Retirement System As of: January 6, 2015

Q 1. How is the military retirement system going to change?

A 1. -- The military retirement system will change as outlined in the current National Defense Authorization Act. Changes will not go into effect until January 2018 Service members who joined after 2006 but before January 1, 2018 will have the choice of whether to stay with the existing system or opt into the new "Blended Retirement System." Those who joined before 2006 will remain in the current system.

Q 2. Why is this good thing for Service members?

A 2. -- Blended Retirement will benefit the entire force. Currently, approximately 81 percent of those members who join the military leave with no retirement benefit. Under the Blended Retirement System, about 85 percent of Service members will receive a retirement benefit, even if they don't qualify for full retirement.

Q 3. How does the Thrift Savings Plan figure into the new system?

A 3. -- Blended Retirement will enroll all Service members joining after January 2018 into the Thrift Savings Plan (TSP), with automatic and matching Department of Defense (DOD) contributions. After completion of two years of service, the Service member is vested and that money belongs to them. If you leave, it goes with you.

Q 4. I'm in the new blended retirement system, how long will the DOD match my contributions?

A 4. Based on the National Defense Authorization Act passed on November 25, 2015, the DOD will contribute 1% of a Service member's basic pay to their TSP after 60 days of entering service and will begin to match the Service member's contributions (up to an additional 4% when a Service member contributes at least 5%) at the start of

the third year of service. Both the DOD automatic 1% and the matching contributions continue through the end of the Service member's 26th year of service.

Q 5. What is the second part of the system, continuation pay?
A 5.—The Blended Retirement System also offers a new "continuation pay" – after 12 years of service, members will receive a cash payment if they opt to stay in for 4 more years. The payment will be two and half months of basic pay for the active component member and half a month's basic pay for the reserve component member.

Q 6. What about the third part, the annuity?
A 6. -- The third part of the Blended Retirement System is a defined benefit or a monthly annuity, which is similar to the 20-year retirement system now in place. Members who retire will still get their monthly annuity pay, but at a reduced amount. The annuity's formula is 2
percent times years served times the "high three" or the average of the highest 36 months (three years) of basic pay received. The Blended Retirement System annuity is close to the current retirement formula, which uses 2 and a half percent as the multiplier.

Q 7. If I'm in the new blended system and retire after 20 years, will I still get an annuity?
A 7. Yes, for those who retire after at least 20 years of service, the retirement remains predominantly a defined benefit in which you will get monthly retired pay. Instead of being calculated at 2.5% times the average of your highest 36 months of basic pay (or your last month of basic pay, if you are under the older, final pay system), your monthly retired pay will be calculated with a 2% multiplier.

Q 8. What education will you be providing and when can Service members opt in?
A 8. DOD recognizes that quality financial education is key to making an informed decision as to whether a Service member should opt-into the blended or remain under

the current system. The first opportunity that a Service member will have to opt-into the new system is on January 1, 2018. In anticipation of the new system, DOD has begun work on three courses: a leader overview of the blended retirement system (fielded by June 2016); a course focused on those Service members with less than 12 years of service as of December 31, 2017 who will be eligible to opt-in (fielded by January 1, 2017); and a course for our new accessions who enter the force on January 1, 2018 and beyond – who are now under the new blended system (fielded by January 1, 2018). The courses targeted at those eligible to opt-in as well as the new recruits will include calculators so that Service members can make comparisons as well as understanding the impact and need to make contributions to the TSP under the new system. The courses will also take into account unique aspects for both the active and reserve components. We intend to beta test each of these courses at least three months before delivery.

Q 9. What should Service members deciding whether to change into the new system be most aware of?
A 9. Because many of our Service members don't make it to a 20 year retirement, this is a new benefit worthy of careful consideration. Early retirement savings and the power of compounding interest are important life-long concepts that you will want to pay attention to and learn more about. Stay tuned to the conversation – you should be as informed as possible to include having all of your questions answered, before you make your decision. DOD is committed to getting this right for you.

Q 10. Do you think that a lot of Service members will leave the military with the new system, since they'll have money in their pocket and no incentive to stay?
A 10. We have done analysis on all of the Services and conclude the current force profiles will not change when we reduce the retirement multiplier from 2.5% to 2.0% and offer government matching into the TSP. We will however, need a continuation pay. This pay is similar to a retention bonus and targeted at the mid-career to ensure

the necessary retention that maintains those force profiles. After two years of service, Service members can keep the DOD
contributions to their TSP account. Service members will have the option to leave those contributions in the TSP or to roll them into another company and/or government 401K retirement plan. The current TSP rules apply for early withdrawal before age 59 1⁄2, in which the Service member would pay a penalty and incur the associated tax liability for taking the funds out early.

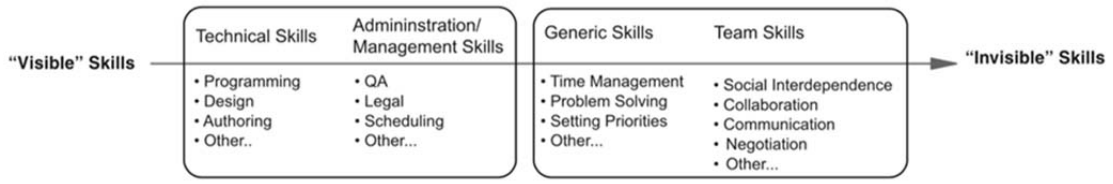
Q 11. How does this benefit the Defense Department?
A 11. This system allows the member to benefit from the power of compounding interest through the government contributions to the TSP. Many more of our Service members will be started earlier than before in their long-term retirement savings. From a readiness point of view, the Department will have a 401k like component to our retirement system when people join our ranks in critical cyber and medical specialties.

Q 12. What reaction have you received from current Service members on the new plan?
A 12. Many Service members want to hear more details about how the new retirement system will work and how it impacts them and their families. That's why increased financial education and training will be essential to help Service members make wise financial decisions and we in the Department are committed to getting this right. We expect that the new courses that will include calculators for comparison to be available to our members by January 2017 and that training will occur throughout that year.

Source: "The Uniformed Services Blended Retirement System." (n.d.).

APPENDIX B. TEAMWORK SKILLS

Figure 1 A spectrum of skills needed for teamwork



Source: Tarricone and Luca (2002).

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C. NCAPS PERSONALITY FACETS

NCAPS facets used in item development

Achievement (AV)

AV1	Ambitious
AV2	Challenging goals
AV3	Confident in Abilities
AV4	Persists Despite Obstacles
AV5	Strives for Excellence
AV6	Works Hard

Adaptability/Flexibility (ADF)

ADF1	Adjusts Approach
ADF2	Likes Variety
ADF3	Diversity
ADF4	Adjusts to Environment

Attention to Detail (ADL)

ADL1	Accurate
ADL2	Detects Errors
ADL3	Organizes Belongings

Dependability (DEP)

DEP1	Planful
DEP2	On Schedule
DEP3	Handles Routine
DEP4	Doesn't Procrastinate

Dutifulness/Integrity (DUT)

DUT1	Sense of Duty
DUT2	Follows Rules
DUT3	Trustworthy
DUT4	Accountable

Self-Reliance (SRL)

SRL1	Self-sufficient
SRL2	Makes Own Decisions

Social Orientation (SO)

SO1	Affiliation
SO2	Agreeable
SO3	Likes Teamwork
SO4	Sensitive
SO5	Team Player

Stress Tolerance (ST)

ST1	Maintains Composure
ST2	Accepts Criticism
ST3	Puts Aside Worries and Guilt

Vigilance (VIG)

VIG1	Vigilance

Willingness to Learn (WTL)

WTL1	Seeks knowledge
WTL2	Accepts Feedback
WTL3	Gets Clarification
WTL4	Broad Interests

Source: Houston et al. (2006).

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D. TAPAS PERSONALITY FACETS

Table 1. TAPAS Dimensions Assessed in the MEPS

TAPAS Facet Name	Brief Description	"Big Five" Broad Factor
Dominance	High scoring individuals are domineering, "take charge" and are often referred to by their peers as "natural leaders."	Extraversion
Sociability	High scoring individuals tend to seek out and initiate social interactions.	
Attention Seeking	High scoring individuals tend to engage in behaviors that attract social attention; they are loud, loquacious, entertaining, and even boastful.	
Generosity	High scoring individuals are generous with their time and resources.	Agreeableness
Cooperation	High scoring individuals are trusting, cordial, non-critical, and easy to get along with.	
Achievement	High scoring individuals are seen as hard working, ambitious, confident, and resourceful.	Conscientiousness
Order	High scoring individuals tend to organize tasks and activities and desire to maintain neat and clean surroundings.	
Self-Control[a]	High scoring individuals tend to be cautious, levelheaded, able to delay gratification, and patient.	
Non-Delinquency	High scoring individuals tend to comply with rules, customs, norms, and expectations, and they tend not to challenge authority.	
Adjustment[a]	High scoring individuals are worry free, and handle stress well; low scoring individuals are generally high strung, self-conscious and apprehensive.	Emotional Stability
Even Tempered	High scoring individuals tend to be calm and stable. They don't often exhibit anger, hostility, or aggression.	
Optimism	High scoring individuals have a positive outlook on life and tend to experience joy and a sense of well-being.	
Intellectual Efficiency	High scoring individuals are able to process information quickly and would be described by others as knowledgeable, astute, and intellectual.	Openness To Experience
Tolerance	High scoring individuals scoring are interested in other cultures and opinions that may differ from their own. They are willing to adapt to novel environments and situations.	
Physical Conditioning	High scoring individuals tend to engage in activities to maintain their physical fitness and are more likely to participate in vigorous sports or exercise.	Other

[a] Not included in TAPAS-13D-CAT.

Source: Nye et al. (2012).

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF REFERENCES

Assessment & Selection. (n.d.). Retrieved March 24, 2017, from https://www.opm.gov/policy-data-oversight/assessment-and-selection/other-assessment-methods/

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel Psychology*, *44*(1), 1–26.

Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, *83*(3), 377.

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next?. *International Journal of Selection and Assessment*, *9*(1-2), 9–30.

Beechler, S., & Woodward, I. C. (2009). The global “war for talent.” *Journal of International Management, 15*(3), 273–285.

Booth-Kewley, S., Larson, G. E., Alderton, D. L., Farmer, W. L., & Highfill-McRoy, R. (2009). Risk factors for misconduct in a Navy sample. *Military Psychology, 21,* 252–269.

Careers & Jobs. (n.d.). Retrieved March 24, 2017, from https://www.navy.com/navy/careers.html

Carroll, K., & Hatch, C. D. (2015). A question of culture: The impact of college major and personality on pursuits of different types of company culture. *Journal of Organizational Culture, Communication and Conflict*, *19*(3), 55.

Casner-Lotto, J., & Barrington, L. (2006). Are they really ready to work? employers’ perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. Washington, DC: Partnership for 21st Century Skills. Retrieved from http://files.eric.ed.gov/fulltext/ED519465.pdf

Cherry, K. (2016). The big five personality traits. In Verywell. Retrieved March 26, 2017, from https://www.verywell.com/the-big-five-personality-dimensions-2795422

Chief of Naval Personnel Public Affairs. (2016). Navy announces enlisted rating modernization plan. Retrieved from http://www.navy.mil/submit/display.asp?story_id=96924

Dale, C., & Gilroy, C. (1983). *The economic determinants of military enlistment rates* (No. ARI-TR-587). Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences. Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a146235.pdf

Dau-Schmidt, K. G. (2014). Labor Law 2.0: The Impact of new information technology on the employment relationship and the relevance of the NLRA. *Emory Law Journal*, *64*, 1583.

Enlisted SEAL Requirements. (2017). Retrieved March 24, 2017, from https://navyseals.com/buds/enlisted-seal-requirements/

Fletcher, J. M. (2013). The effects of personality traits on adult labor market outcomes: Evidence from siblings. *Journal of Economic Behavior & Organization*, *89*, 122–135.

Freedberg, S. J. Jr. (2017). Build more ships, but not new designs: CNO Richardson on McCain plan. *Breaking Defense*. Retrieved from http://breakingdefense.com/2017/01/build-more-ships-but-not-new-designs-cno-richardson-to-mccain/

Garbarino, S., Chiorri, C., & Magnavita, N. (2014). Personality traits of the five-factor model are associated with work-related stress in special force police officers. *International archives of occupational and environmental health*, *87*(3), 295–306

García, E. (2016). The need to address non-cognitive skills in the education policy agenda. Washington, DC: Economic Policy Institute. Retrieved from http://files.eric.ed.gov/fulltext/ED558126.pdf

Goffee, R., & Jones, G. (1996). What holds the modern company together?. *Harvard Business Review*, *74*(6), 133.

Greger, K. R. (1999). A positive corporate culture is the soul of retention. *Hotel and Motel Management*, *214*(17), 10.

Groysberg, B., Scott, S., & Lane, D. (2005). *Leadership development at Goldman Sachs* Case 9-406-002*.* Boston, MA: Harvard Business School.

Harrison, D. A., Price, K. H., Gavin, J. H., & Florey, A. T. (2002). Time, teams, and task performance: Changing effects of surface-and deep-level diversity on group functioning. *Academy of Management Journal*, *45*(5), 1029–1045.

Hillmann, M. R., Dongier, P., Murgallis, R. P., Khosh, M., Allen, E. K., & Evernham, R. (2005). When failure isn't an option. *Harvard Business Review*, *83*(7/8), 41–50.

Hogan, R., Hogan, J., & Roberts, B. W. (1996). Personality measurement and employment decisions: Questions and answers. *American Psychologist*, *51*(5), 469.

Houston, J. S., Borman, W. C., Farmer, W. F., & Bearden, R. M. (2006*). Development of the Navy computer adaptive personality scales (NCAPS)* (No. NPRST-TR-06-2). Millington, TN: Navy Personnel Research Studies and Technology.

Jane, M. (n.d.). How to create efficiency in the workplace. *Houston Chronicle.* Retrieved from http://smallbusiness.chron.com/create-efficiency-workplace-22333.html

Ju, S., Pacha, J., Moore, K., & Zhang, D. (2014). Employability skills for entry-level employees with and without disabilities: A comparison between the perspectives of educators and employers. *Journal of Vocational Rehabilitation*, *40*(3), 203–212.

Kay, D. J., Pudas, T. J., & Young, B. (2012). Preparing the pipeline: The US cyber workforce for the future. *Defense Horizons*, (72), 1.

Lewis, R. E., & Heckman, R. J. (2006). Talent management: A critical review. *Human Resource Management Review*, *16*(2), 139–154.

Li, N., Zhao, H. H., Walter, S. L., Zhang, X. A., & Yu, J. (2015). Achieving more with less: Extra milers' behavioral influences in teams. *Journal of Applied Psychology*, *100*(4), 1025.

Lipstein, S. H., & Kellermann, A. L. (2016). Workforce for 21st-century health and health care. *Jama*, *316*(16), 1665–1666.

Mattern, K., Burrus, J., Camara, W., O'Connor, R., Hansen, M. A., Gambrell, J., ... & Bobek, B. (2014). Broadening the definition of college and career readiness: A holistic approach. *ACT Research Report Series, 2014* (5). Retrieved from http://files.eric.ed.gov/fulltext/ED555591.pdf

Mehay, S., & Webb, N. J. (2007). Workplace drug prevention programs: Does zero tolerance work?. *Applied Economics*, *39*(21), 2743–2751.

Michaels, E., Handfield-Jones, H., & Axelrod, B. (2001). *War for talent.* Boston, MA: Harvard Business Press.

Nye, C. D., Drasgow, F., Chernyshenko, O. S., Stark, S., Kubisiak, U. C., White, L. A., & Jose, I. (2012). *Assessing the tailored adaptive personality assessment system.* Urbana, IL: Drasgow Consulting Group.

O'Daniel, P. G. (2012). *Assessment of personality as a requirement for next generation ship optimal manning*. (Master's thesis). Retrieved from http://calhoun.nps.edu/handle/10945/17430

Pema, E., Mehay, S., & Tick, S. (2016). Noncognitive skills and job match: Evidence from military applicants. *Defence and Peace Economics*, 1–23.

Pinelis, Y. K., Schmitz, E. J., Miller, Z. T., & Rebhan, E. M. (2011). An analysis of Navy recruiting goal allocation models. Arlington, VA: Center for Naval Analyses. Retrieved from https://www.cna.org/CNA_files/PDF/D0026005.A2.pdf

Rao, H., Bowen, C., & Lopez, G. (2014). *Navy SEALs: selecting and training for an elite fighting force. Case HR40.* Stanford, CA: Stanford Graduate School of Business.

Riffenburgh, R. H. (1991). *Tactical decision making under stress (TADMUS) program study (No. NOSC/TD-2217).* San Diego: Naval Ocean Systems Center. Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a242766.pdf

Sackett, P. R., & Walmsley, P. T. (2014). Which personality attributes are most important in the workplace?. *Perspectives on Psychological Science*, *9*(5), 538–551.

Sadri, G., & Lees, B. (2001). Developing corporate culture as a competitive advantage. *Journal of Management Development*, *20*(10), 853–859.

Salas, E., Shuffler, M. L., Thayer, A. L., Bedwell, W. L., & Lazzara, E. H. (2015). Understanding and improving teamwork in organizations: A scientifically based practical guide. *Human Resource Management*, *54*(4), 599–622.

Segall, D. O. (2004). *Development and evaluation of the 1997 ASVAB score scale* (Technical Report No. 2004-002). Seaside, CA: Defense Manpower Data Center. Retrieved from http://www.official-asvab.org/docs/1997score_scale.pdf

Sheridan, J. E. (1992). Organizational culture and employee retention. *Academy of Management Journal*, *35*(5), 1036–1056.

Stark, S., Chernyshenko, O. S., Drasgow, F., Nye, C. D., White, L. A., Heffner, T., & Farmer, W. L. (2014). From ABLE to TAPAS: A new generation of personality tests to support military selection and classification decisions. *Military Psychology*, 26(3), 153.

Stewart, C., Wall, A., & Marciniec, S. (2016, July). Mixed signals: Do college graduates have the soft skills that employers want?. *In Competition Forum* (Vol. 14, No. 2, p. 276). American Society for Competitiveness. Retrieved from http://search.proquest.com.libproxy.nps.edu/docview/1838503198/fulltextPDF/5C065F8D46F24C91PQ/1?accountid=12702

Talboy, A. N. (2011). Evaluation of the Armed Services Vocation Aptitude Battery (ASVAB). *Journal of Young Investigators*, *22*(6). Retrieved from http://legacy.jyi.org/articleimages/3759/JYI%20Volume%2022%20Issue%206%20-%20Talboy,%20Alaina_Evaluation%20of%20Armed%20Services%20Vocation%20Aptitude%20Battery%20(ASVAB).pdf

Tarricone, P., & Luca, J. (2002). Employees, teamwork and social interdependence–a formula for successful business?. *Team Performance Management: An International Journal*, *8*(3/4), 54–59.

Turpin, A. R. (2014). *Evaluating the tailored adaptive personality assessment system on delayed entry program attrition.* (Master's thesis). Retrieved from http://calhoun.nps.edu/handle/10945/41454

The Uniformed Services Blended Retirement System. (n.d.). Retrieved March 24, 2017, from http://militarypay.defense.gov/BlendedRetirement/

Vergun, David. (2015). Personality test helps ensure civilians are compatible for Army life. Retrieved from https://www.army.mil/article/148691/Personality_test_helps_ensure_civilians_are_compatible_for_Army_life

What Happens After the Test?. (n.d.). Retrieved March 24, 2017, from http://www.asvabprogram.com/educators-post-test

Wiggenhorn, W. (1990). Motorola U: When training becomes an education. *Harvard Business Review, 68*, 71–83.

Yeung, Ken. (2013). Startup hiring isn't just about qualifications, it's about finding cultural fit. In The Next Web. Retrieved March 24, 2017, from https://thenextweb.com/insider/2013/10/27/startup-hiring-isnt-just-qualifications-finding-cultural-fits/#.tnw_VOLk7Abn

Zimmerman, R. D. (2008). Understanding the impact of personality traits on individuals' turnover decisions: A meta-analytic path model. *Personnel Psychology*, *61*(2), 309–348.

THIS PAGE INTENTIONALLY LEFT BLANK

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
   Ft. Belvoir, Virginia

2. Dudley Knox Library
   Naval Postgraduate School
   Monterey, California