

8-19-2024

Promotion and Personality in Military Officers as Moderated by Race

Margaret Raia
Walden University

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Walden University

College of Psychology and Community Services

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Margaret Nolan Raia

has been found to be complete and satisfactory in all respects,
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Review Committee

Dr. Nancy Bostain, Committee Chairperson, Psychology Faculty

Dr. Jesus Tanguma, Committee Member, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2024

Abstract

Promotion and Personality in Military Officers as Moderated by Race

by

Margaret Nolan Raia

MA, Walden University, 2016

BS, The University of South Alabama, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Social Psychology

Walden University

August 2024

Abstract

Career progression of U.S. military officers into the senior officer corps remains a difficult objective. Current research focuses on the lack of diversity in the senior officer corps and systematic factors inhibiting officers from promotions. This study was grounded in McCrae and Costa's five-factor model of personality, to examine U.S. military officers' personality characteristics and their relation to promotion while moderating for race. This quantitative study used binary logistical regression of survey data to establish whether the personality characteristics of openness, conscientiousness, extraversion, agreeableness, and neuroticism predict promotion. U.S. Army and Naval officers in ranks O4–O10 were sampled from social media sites and military officer associations. Data collection included the self-report personality survey IPIP-NEO-60 and a demographic questionnaire. Data were electronically collected through the Qualtrics website. Findings of the study indicated that the trait of agreeableness predicted promotion into the senior officer corps and that race did not have a moderating effect. Although not significant, a pattern of personality traits emerged from both promotion groups reflecting low neuroticism, openness, and extraversion with average agreeableness and conscientiousness. The results of this study may influence social change by informing military and federal leaders of the role personality characteristics play in those leading the American military and their rank advancement into the senior officer corps.

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Dedication

I dedicate this dissertation to my father, John Anthony Nolan, III. My father inspired me to get a PhD and has academically championed me since elementary school. Without his confidence in me, I would not have ventured into my graduate education. I also dedicate this study to military officers endeavoring to promote into the senior officer corps. Thank you for your service regardless of your promotions and rank. Lastly, I dedicate this dissertation to my husband, Jonny Raia, CAPT USN, for whom promotion boards seemed elusive even when in his favor.

Acknowledgments

I would like to acknowledge my committee members for providing guidance, knowledge, and unlimited encouragement throughout this dissertation journey.

Specifically, Dr. Nancy S. Bostain, who encouraged me during my hardest times and helped me through so many health challenges. You were my cheerleader, and I will forever be thankful for you.

This journey would not have happened without the support and love of my husband, Jonny Raia, CAPT USN. While it is not always easy being a military spouse, it is on par with what he experienced as a doctoral spouse. Thank you for your ubiquitous patience, understanding, and strength when needed. Thank you to my parents, John and Helen Nolan, for their confidence in me when mine was lacking as well as the financial support to finish my degree. To my many family members and friends, I truly appreciate your love and emotional support. Lastly, I would like to acknowledge the many Army and Navy officers who took part in my research and helped me to achieve the sample size required. It took a village to complete this dissertation, and I am grateful for all who supported me on my dissertation journey.

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Chapter 1: Introduction to the Study

Introduction

In 1973, the U.S. military draft expired, culminating in an all-volunteer American military (MacLean, 2017). The U.S. armed forces endeavor to reflect the people they serve but lack diversity in their senior leadership (Kamarck, 2019). Statistically, the officer corps of the U.S. military is predominately White at 77.3%, with 87.5% representing the upper echelons of the military (Council on Foreign Relations, 2020; Kamarck, 2019). Researchers have indicated that minority military leadership increased the probability of minority retention (Greene, 2019) and that the lack of minority representation in the senior officer corps (i.e., ranks O5–O10 Navy/Army; ranks O4–O10 Air Force/Marine Corps) leads to diminished minority officer retention rates, and in some cases, a loss in confidence in the military to represent citizens (Baldwin, 2000; Davis, 2018; Kamarck, 2019; McClellan, 2020). The Military Leadership Diversity Commission (2010) found that minority line officers promoted less than the average promotion rate to the ranks of O4 and O5 in some services but submitted that demographic promotion differences solely do not indicate promotion bias.

To promote to the senior ranks of O4–O6, each officer's qualifications, performance reviews (i.e., fitness reports, officer evaluation reports, officer performance reports), and selection board outcomes are taken into consideration (Greene, 2019; Spain, 2020). The Navy listed a subsection of additional promotion considerations criteria that reflect elements of personality characteristics and attributes (Slavonic, 2021), and Army evaluation reports included similar personality elements. Selection board notes are

confidential, and board members are prohibited from discussing board selection matters, so officers never know why they promote or fail to promote (U.S. Code Armed Forces, 2011). Officers may internalize the reasons for their promotion status, with some believing their personality, leadership style, or race had an effect. Schmidt (2014) posited the contribution of personality traits in occupational performance, which is considered in military promotions. Implicit bias may contribute to the lack of minority promotions (McClellan, 2020). Secretary of Defense Esper (2020) directed a three-pronged approach to eradicate discrimination, prejudice, and bias in the U.S. military, which included a policy prohibiting photographs from being displayed in promotion and selection boards.

The findings from this research may contribute to positive social change by informing military and federal leaders of the role that personality characteristics, as well as race, play in those leading the American military by informing those who design defense-gear development programs, retention programs, diversity programs, and leadership programs.

This chapter provides a brief overview from extant literature relating to the senior officer corps that includes career progression, diversity issues, and the current use of personality assessments in the U.S. military. In the problem statement, a description of the current issues relating to promotions to the senior officer corps is addressed. This is followed by the purpose of the study, the research questions and related hypotheses, and a description of the five-factor model (FFM) theoretical framework that guided this research and the construct of race. Subsequently, the nature of the study, term definitions, assumptions, and significance of the study are addressed.

Background

Currently, extant literature regarding the American military covers a plethora of topics. Relevant topics focus on diversity in the ranks, promotion rates, and personality types of military officers. The crux of this dissertation lies the lack of research on senior officer promotions and their personality traits.

Schmidt (2014) explained the potential for the contribution of personality in occupational success mainly where positions involve specific interests. Examining personality traits of military officers may aid in recognizing those who would excel in the senior officer corps. Miles and Haider-Markel (2018) posited that volunteering to serve in the armed service is not genetic but that the same gene that leads persons to emotional stability and/or extraversion also leads to serving in the armed forces. Using the five factor personality traits, Gardner et al. (2012) opined that in a hierarchal organization (i.e., military), persons displaying higher levels of conscientiousness and lower levels of openness integrated better into their hierarchy group. Researchers showed linkages between the FFM and military organizations (Bech et al., 2021; Bobdey et al., 2021; Forman & Zachar, 2001; Johnson & Hill, 2009; Klee & Renner, 2016; Magal et al., 2021; Ployhart et al., 2001; Skoglund et al., 2021). In the United States, high conscientiousness was a predictor of military job performance, and high extraversion with leadership (Barrick & Mount, 1991). Leadership effectiveness in the Australian military correlated with high conscientiousness and low extraversion; in addition to high conscientiousness and low extraversion, high openness predicted attending promotion courses (McCormack & Mellor, 2002). A study involving Norwegian Special Operations Forces found that

agreeableness was higher in operators prior to deployments and that after a number of combat-deployments, their level of agreeableness declined, but the extraversion trait was higher in officers, resulting in the trait being linked with leadership (Skoglund et al., 2020). A seminal Asian military study elucidated that the Singaporean military's openness trait predicted maximum performance while the neuroticism trait predicted typical performance (Plyhart et al., 2001).

A perceived barrier to promotion to the senior officer corps is demographics. Promotion to the senior officer corps is not based on an affirmative action quota but on the officer records presented to the promotion board because the military is excluded from Title VII (McClellan, 2020; Westergard, 2019). The percentage of active-duty minority officers in the Navy, Marine Corps, and Air Force has increased since 2010 but decreased in the Army (U.S. Department of Defense, 2019). The active-duty military has 233,189 officers, with 55,616 officers in racial minority groups; minorities represent 21.4% of the O4–O6 pay grades, and 11.1% of the O7–O10 pay grades (U.S. Department of Defense, 2019). In 2017, demographics indicated Hispanics as the fastest growing ethnicity in the military (Barroso, 2019); however, the U.S. Department of Defense (2019) demographic statistics do not include Hispanics as part of the racial minority group but a Hispanic/Latino ethnic group.

The Obama administration developed the Military Leadership Diversity Commission (2010) to investigate fairness in promotions and command opportunities for all U.S. service members. Their findings that the lack of diversity in promotions, solely, not equating to bias in the promotion system led to further demographic studies. Asch et

al.'s (2012) and Kamarck's (2019) findings were similar in differences of officer promotion demographics although they showed an increase of differences at higher ranks starting at the O4 promotions. The Air Force changed its promotion system in 2021 to reflect career fields, resulting in an increase in diversity promotions (Cohen, 2021).

As of 2024, no studies have included examination of the personality characteristics of U.S. officers promoted into the senior officer corps using the FFM or moderating for race (Deibler, 2012; Drasgow, 2020; McCormack & Mellor, 2002; Miles & Haider-Markel, 2019; Pastor Álvarez et al., 2019; Rad et al., 2019). There is a plethora of research examining personality traits of military members but minimal research using the FFM in relation to promotions or race.

This study was needed to address the lack of research on promotions to the senior officer corps, the personality characteristics of U.S. senior officer corps, and the scarcity of diversity in senior officer corps promotions.

Problem Statement

Career progression is a goal of service members of the U.S. military, but promoting to the senior officer corps is more difficult by design (Baldwin & Rothwell, 1993; McClellan, 2020; Stewart & Firestone, 1992). Many qualified service members are not promoting to the senior officer corps and are either separating early or retiring at 20 years of service (Sümer & Mete, 2019). The Defense Officer Personnel Management Act (DOPMA) of 1980 dictates the number of active-duty officers, so each armed service has a finite number of commissioned officer billets for O4 and above (Kapp, 2016; Rostker et al., 1992). The number of promotions reflect the number of billets available after

retirements, separations, or a change to military strength issued by the Secretary of Defense (Baldwin & Rothwell, 1993; Kapp, 2016). Due to the confidentiality of selection and promotion boards, service members are left to their own perceptions as to what affected their promotion status (U.S. Code Armed Forces, 2011). Despite research on implicit bias and diversity issues regarding promotions (Baldwin, 2000, Greene, 2019, McClellan, 2020), there are no previous studies focusing on the relationship between personality characteristics and promotion of senior military officers. The problem is that it is unknown to what extent personality characteristics predict U.S. military promotion into the senior officer corps, and if they do predict promotion, whether the relationship is moderated by race.

The military assesses officers' personality characteristics to examine officer performance, leadership skills, and traumatic-brain injuries, as well as in selection processes (Belanger, 2020; Campbell et al., 2010; Drasgow, 2020; Kennedy et al., 2015; Ingram et al., 2020; Stark et al., 2014). The specific problem investigated in this research was whether there are differences in personality characteristics between those who promote to the senior officer corps and those who do not, as moderated by race.

Purpose of the Study

The purpose of this quantitative study was to examine to what extent personality characteristics predict the promotion of officers in two sample groups related to the senior officer corps of the U.S. military, while considering the moderating role of race. In this study, the personality characteristics of officers was the independent variable, the promotion status to the senior officer corps was the dependent variable, and race served

as the moderating variable. The two promotion status groups were (a) junior officers (i.e., O4) who failed to promote to the senior officer corps and (b) senior officers (i.e., O5–O10).

Research Questions and Hypotheses

RQ1: To what extent do personality characteristics, as measured by the IPIP-NEO-60, predict the officer promotion groups in the U.S. military?

H₀1.1: The personality characteristic of Openness does not predict officer promotion groups in the U.S. military.

H_A1.1: The personality characteristic of Openness does predict officer promotion groups in the U.S. military.

H₀1.2: The personality characteristic of Conscientiousness does not predict officer promotion groups in the U.S. military.

H_A1.2: The personality characteristic of Conscientiousness does predict officer promotion groups in the U.S. military.

H₀1.3: The personality characteristic of Extraversion does not predict officer promotion groups in the U.S. military.

H_A1.3: The personality characteristic of Extraversion does predict officer promotion groups in the U.S. military.

H₀1.4: The personality characteristic of Agreeableness does not predict officer promotion groups in the U.S. military.

H_A1.4: The personality characteristic of Agreeableness does predict officer promotion groups in the U.S. military.

H₀1.5: The personality characteristic of Neuroticism does not predict officer promotion groups in the U.S. military.

H_A1.5: The personality characteristic of Neuroticism does predict officer promotion groups in the U.S. military.

RQ2: To what extent does race moderate the relationship between officer personality characteristics and promotion group (junior officers and senior officers)?

H₀2.1: Race does not moderate the relationship between the officer personality characteristic of Openness and promotion group.

H_A2.1: Race does moderate the relationship between the officer personality characteristic of Openness and promotion group.

H₀2.2: Race does not moderate the relationship between the officer personality characteristic of Conscientiousness and promotion group.

H_A2.2: Race does moderate the relationship between the officer personality characteristic of Conscientiousness and promotion group.

H₀2.3: Race does not moderate the relationship between the officer personality characteristic of Extraversion and promotion group.

H_A2.3: Race does moderate the relationship between the officer personality characteristic of Extraversion and promotion group.

H₀2.4: Race does not moderate the relationship between the officer personality characteristic of Agreeableness and promotion group.

H_A2.4: Race does moderate the relationship between the officer personality characteristic of Agreeableness and promotion group.

H₀2.5: Race does not moderate the relationship between the officer personality characteristic of Neuroticism and promotion group.

H_A2.5: Race does moderate the relationship between the officer personality characteristic of Neuroticism and promotion group.

Theoretical Framework for the Study

The theoretical framework for this study was McCrae and Costa's (1987) FFM. These theorists posited that human personality consists of five traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae & Costa, 1987). The FFM ranks traits on a spectrum rather than by category. This ranking allows personalities to be categorized by the level of trait or characteristic instead of a binary option (McCrae & Costa, 1985). Researchers have used this theory to examine military personality characteristics (Barańczuk, 2019; Barrick & Mount, 1991; McCormack & Mellor, 2002; Plyhart et al., 2001; Skoglund et al., 2020). Consequently, the FFM is appropriate for examining military officer personality traits. Although the FFM does predict behavior, McCrae and Costa (2006) opined that those behaviors influenced by personality traits lack flexibility but are constant.

This study also used the concept of race. According to the U.S. Department of Defense (2019), individuals may be categorized as American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, or White. For categorization purposes, this study used two categories: Caucasian and non-Caucasian.

Nature of the Study

To address the research questions in this quantitative study, the specific research design included a cross-sectional design (Creswell & Creswell, 2018, Singh Setia, 2016) using the survey method. The cross-sectional design allowed me to gather information on what was occurring in the military population while examining various characteristics simultaneously. The administration of surveys online measured (a) for personality characteristics and (b) for demographics. This quantitative analysis statistically compared personality characteristics between two promotion groups related to the senior officer corps as well as any moderating effects of race. In this study, the personality characteristics of officers were the independent variable, the promotion status to the senior officer corps was the dependent variable, and race served as the moderating variable.

For my research design, I recruited Army and Naval officers belonging to the two groups based on their rank (O4s who failed to promote to O5 and O5–O10s who were promoted to senior officer) via social media sites such as LinkedIn and Facebook, and military associations. Army and Naval officers were recruited based on their criteria, defined by their services specifications, for senior officer pay grades. Senior officer paygrades in the Army and Navy begin with selection to O5. Participants filled out two surveys online using Qualtrics. All data have been kept confidential. This study used binary logistical regression for both research questions.

Operational Definitions

Agreeableness is the interpersonal behavior-related personality dimension, according to McCrae and Costa (1987). Individuals with a low score for agreeableness may exhibit antagonistic tendencies, while those with higher levels may be trustful and cooperative (McCrae & Costa, 1987).

Conscientiousness is a FFM personality dimension that “contrasts scrupulous, well-organized, and diligent people with lax, disorganized, and lackadaisical individuals” (Costa & McCrae, 1992, p. 6).

Extraversion in this study refers to the FFM personality dimension that associates with levels of sociability and affection (McCrae & Costa, 1987). People with higher levels of extraversion may be more fun-loving or sociable while those on the lower continuum may be reserved and less affectionate (McCrae & Costa, 1987).

Flag Officers/General Officers are the most senior of the senior officer corps (i.e., O7-O10). The terms are reserved for Admirals (Flag Officers) in the Navy and Generals (General Officers) in the Army, Air Force, and the Marine Corps.

Openness is a FFM personality dimension that reflects a willingness towards ideas and values (McCrae & Costa, 1987).

Neuroticism is a FFM personality dimension related to human psychological distress tendencies (Costa & McCrae, 1992). Those with higher scores may experience more negative emotions and appear more temperamental than those with low neuroticism scores.

Rank is the hierarchical assignment of U.S. commissioned military officers to 10 vertical levels with number assignments (i.e., O1–O10). Known as *grade* or *paygrade*.

Retire is the term for leaving the military with a minimum of 20 years of service. Service members may medically retire with less than 20 years with Department of Defense (DoD) approval. Retirement entails lifetime medical benefits and retirement pay.

Senior Officer Corps is the nomenclature when referencing the level of military officers between the ranks of O5 and O10 in the Army and Navy, and O4 and O10 in the Marine Corps and Air Force.

Separated is the term used for leaving the military when service members separate from the military after 19 or fewer years.

Assumptions

To conduct this study, necessary assumptions were made. First, I assumed that all participants were honest in their answers to the questionnaires because incorrect or false answers negatively impacted the study results. Another assumption was that officers with such training and education levels understood all aspects covered on the questionnaires with no questions or misinterpretation. The last assumption was that the participants followed instructions because they were trained to follow instructions as part of their profession.

Scope and Delimitations

It is not transparent why military leaders are chosen, and that lends to military officers introspectively looking for reasons. Presently, studying this problem is opportune given the increase of personality assessments in leadership selection and a focus on

increasing diversity in leadership and types of leaders. The participants were not surveyed at their place of employment due to population protections; participants completed the online questionnaires where they felt comfortable. The online format allowed for a wider population, but there was no certainty that all participants belonged to the group they designated in the questionnaire because they freely volunteered to participate. Socioeconomic information status was not directly collected for this study, but rank for active-duty officers gave that information. I collected participant demographic information such as age, years in service, gender, and education level for solely descriptive purposes; these demographic responses did not affect the outcome of the research.

Limitations

This study relied on social media to find qualifying officers who were willing to participate in the study, and that was a challenge if the social media post was not received well. I received feedback from officers before posting to ensure that the participation invitation was clear and without issues. Another limitation was the use of solely Army and Naval officers as it decreased the number of DoD participants. I reached as many Army and Naval officers as I could through social media and was able to meet the required sample size. Although I used race as moderator variable, not analyzing any of the other descriptive data limited the results. If I conduct further research into this topic, I will use the descriptive data to analyze their impact. Although the sample was met, the number of participants in each group was not equal and could be perceived as a limitation. As a military spouse of an officer in the senior officer corps, I constantly

evaluated myself for any bias to ensure that the study was not influenced. I visited an Institutional Review Board (IRB) office hour session to consult for any limitation clarification concerning the use of military officers.

Significance

This study was significant in that it addressed a gap in research concerning the relationship between military officer personality characteristics and promotion to the senior officer corps while considering the moderating role of race. The findings from this study may promote positive social change by informing military and federal leaders of the role personality characteristics played in those leading American military as well as informing those who design defense-gear developmental programs, retention programs, diversity programs, and leadership programs. The significance of this study to social psychology involves social influence and group behavior. The results raise awareness of the social behaviors of a military officer as well as their attitude towards developing their personality characteristics. Although the military culture is one of conformity, this study also indicated if group members shared personality characteristics.

Summary

Gardner et al. (2012) posited the importance of personality in hierarchal organizations. Military promotions depend on a plethora of criteria, but the influence of personality characteristics on the process is unknown. This chapter reviewed types of personality characteristics previously associated with military service, the roles of demographics, and diversity. The goal of this study was to compare personality characteristics between the two promotion groups related to the senior officer corps as

well as any moderating effects of race. In Chapter 2, I provide a more in-depth overview of the outcome, predictor, and moderating variables of the study. First, I expand on the personality characteristics by providing seminal and contemporary literature that highlights the FFM. Subsequently, I present a review of U.S. military promotions, demographics, and literature reviewing diversity in the military. Finally, I present seminal and contemporary literature concerning the military and personality.

Chapter 2: Literature Review

Introduction

The purpose of this quantitative study was to compare the differences in personality characteristics between officers in two sample groups related to the senior officer corps of the U.S. military, while considering the moderating role of race. The lack of minority representation in the senior officer corps is one of the most notable issues in the U.S. military (Kamarck, 2019; McClellan, 2020; Military Leadership Diversity Commission, 2010). While there is a plethora of research focusing on the U.S. military and personality (Deibler, 2012; Drasgow, 2020; McCormack & Mellor, 2002; Miles & Haider-Markel, 2019; Pastor Álvarez et al., 2019; Rad et al., 2019), there was a paucity of research specifically on promotions and personality in the armed forces. Therefore, this study examined the unknown differences in personality characteristics between U.S. military junior officers who failed to promote to the senior officer corps and U.S. military senior officers who did promote, and subsequently examined whether the relationship was moderated by race.

In this chapter, a description of the literature research strategy is included as well as the theoretical background. The chapter contains a review of extant literature on topics such as career progression, diversity issues, and the current use of personality assessments in the armed forces, followed by a summary.

Literature Search Strategy

The literature for this dissertation was obtained from the Walden University Library and Google Scholar. Walden University Library provided the EBSCO Host

database system, which accounted for a majority of the scholarly and peer-reviewed articles accessed for this research. Through the EBSCO Host database system, the following databases were utilized: (a) APA PsycINFO, (b) ProQuest, (c) Sage Journals, (d) PubMed, and (e) Military and Government Collection. Searches were limited to full-text peer reviewed journal articles, conference papers, theses, and dissertations. Search terms included Boolean operators (i.e., and, or, not) in addition to the variables (i.e., personality, promotion, race, authentic leadership) and related terms such as *military*, *diversity*, *Five Factor Model*, and *ALQ*. Key search terms and search combinations included *Military + promotion + personality + minority*, *Personality + promotion + military*, *Authentic Leadership Questionnaire + military*, *Military+ promotions + promote +promoting + minority groups*, *Military+ promotions + promote + promoting +authentic leadership*, *Military + promotions + promote + promoting + minority + officer*, *Military + promotions + officer*, *Affirmative Action + US military*, *Military + personality + United States - international*, *Military + personality + United States*, *Diversity + military leadership*, *Five Factor Model + military*, *Five Factor Model + military*, *Diversity + promotion + military*, *Race + promotion + military + Officer*, *NEO-FFI-3 + military + promotions*, and *NEO-FFI-R + military*.

The primary research contained in this literature review includes peer-reviewed journal articles, theses, dissertations, and the basis of the theoretical frameworks. The research began with an initial scope from 2015 to 2024, but the scope of years was extended to reflect seminal research and the paucity of current research. The seminal research included the theoretical frameworks and military history. To handle the scarcity

of current research (i.e., research on promotions, military officers, FFM, diversity), the date scope of research was expanded and international studies were included instead of solely concentrating on American-military-focused research.

Theoretical Foundation

One psychological theory grounded this study and was key to understanding the personality characteristics of U.S. military junior officers who failed to promote to the senior officer corps and those promoted to the senior officer corps, as well as the moderating degree of race. The theory that grounded this study was the FFM, which focuses on the dimensions of human personality (McCrae & Costa, 1987) while supporting the idea of trait similarities within cultures (McCrae & John, 1992) that by extension related to characteristic similarities in officers promoted to the senior officer corps. Organizations use the FFM as a selection tool because they seek certain personality traits often linked with effective leadership (Barrick & Mount, 1991). The concept of race (U.S. Department of Defense, 2019) was applied to account for diversity in the promotions.

Five Factor Model

McCrae and Costa (1987) theorized in the FFM that human personalities consist of five dimensions: openness, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae & Costa, 1987). Although the FFM provided the five dimensional traits in a categorical manner, each trait has a subset of unique factors. McCrae and John (1992) asserted that the FFM's comprehensiveness and the minimal covariance of the personal traits supported the assumptions of the theory being cross-cultural and socially

significant. A cross-culturally accepted theory revealed how diverse languages reflected similar human nature due to interpersonal behaviors that cross cultures (McCrae & John, 1992). Allik and McCrae (2002) pointed out that the FFM traits provided a cross-cultural foundation for understanding human personality when compared across 40 cultures. The military encompasses a diverse workforce with various personalities but is a culture unto its own that incorporates subcultures by service departments (i.e., Army culture, Navy culture, Air Force culture, Marine Corps culture). To understand human personality within the U.S. military, the FFM provided the foundation for the overall military culture in this study.

Built upon Eysenck's two-trait personality research, the FFM added openness, agreeableness, and conscientiousness traits (McCrae & Costa, 1987). The additional traits begat the FFM theory, which produced reliability and validity resulting in consistent use of the FFM across cultures. Barrick and Mount (1991) stated a link between the FFM and leader effectiveness; subsequently, corporations, governments, militaries, academic entities, and nonprofits internationally incorporated the FFM via assessments (i.e., NEO formats) to increase their leader effectiveness and workers' job performance (Barron et al., 2016; Bobdey et al., 2020; Klee & Renner, 2015; Ployhart et al., 2001; Salgado, 1998; Wang et al., 2019). The Indian Armed Forces examined whether they could identify personality traits that correlated with Officer-Like-Qualities (OLQ; Bobdey et al., 2020). This research indicated that conscientiousness positively correlated with OLQ while neuroticism had a negative correlation. Bobdey et al. (2020) elucidated that military officers worldwide command forces in unconventional warfare and that their

findings suggest that armed forces equipped with positive, flexible, and imaginative officers resulted in war fighters and decision makers. McCrae and Costa (2003) asserted that all cultures need people with personalities geared to thrive in war as well as others that thrive in peace.

Although the FFM has become one of the most prominent of personality constructs, it has faced criticism. Given that one assumption and strength of the FFM is its universality, it is interesting that one criticism regarded the assumption that the traits were universal (Bowler et al., 2012). Bowler et al. (2012) contended that the traits were not universal for individuals with lower cognitive levels, as those individuals displayed three factors whereas those with higher cognitive levels displayed six to seven factors. Various studies have countered Bowler et al. as their research has replicated the five-factor structure consistently. Another criticism is that some facets overlap with traits. Samuel and Widiger (2008) pointed out that although neuroticism and conscientiousness are separate traits, the facet impulsiveness correlates with both traits and therefore overlaps. However, there was always the potential for the domains to not be statistically independent with a cross relationship between the facet and traits (McCrae & Costa, 2003).

The FFM provided a classification system of personality characteristics in officers in the military culture. Kaiser and Hogan (2011) opined that the FFM classifies traits systematically; it does not measure them. McCrae and Costa's (1987) theory provided researchers a framework that methodically supported trait comparisons (Kalshoven et al., 2011), specifically in the military (Bech et al., 2021; Huijzer et al., 2022; Klee & Renner,

2015). The FFM has further been linked to authentic leadership (Meskelis & Whittington, 2020; Shahzad et al., 2021), which is key in military leadership and promotion criteria. Shahzad et al. (2021) explained a belief that leadership skills may be predicated on personality traits, and so their research indicated that authentic leadership positively correlates with extraversion, agreeableness, conscientiousness, and openness to experiences.

Concept of Race

Race is a socially constructed classification system that distinguishes differences between humans based on their phenotypic characteristics (Maddox, 2004). The U.S. military has six classifications for race and an ethnicity classification for Hispanics. The classification includes White, Black, Asian, multiracial, Native Hawaiian or other Pacific Islander, and American Indian or Alaska Native (DoD, 2021). While some studies have not indicated a statistically significant difference in the FFM traits when based on race (Collins & Gleaves, 1998; Foldes et al., 2008), Tate's (2008) research indicated that Blacks are slightly more extroverted and less neurotic than Whites, and that meanwhile Whites scored slightly higher in the agreeableness trait. In contrast, Johnson's (2000) study indicated that Blacks scored higher than Whites on the agreeableness trait and lower than Whites on neuroticism. Unique to Johnson's (2000) research was the military population across all services used as participants whereas other research conducted relied on civilians.

Researchers have delved into the relationship between personality and racial prejudice. Lin and Alvarez (2020) studied the personality and anti-Black prejudice of

White, non-Hispanic participants. The authors elucidated that agreeableness and conscientiousness directly associated with anti-Black prejudice, but the variables controlled for were authoritarianism, social dominance orientation, and political leanings. Previous research has also found agreeableness (Cohrs et al., 2012; Sibley & Duckitt, 2008) statistically significant in its relation to prejudice; Cohrs et al. (2012) found agreeableness and openness in their second data study as statistically significant in their relation to prejudice. However, other studies have contradicted those findings and found no statistically significant relationship between the FFM and prejudice (Duriez & Soenens, 2006; Ekehammar et al., 2004; Hodson et al., 2009; McFarland, 2010).

Literature Review

Studies related to military promotions were reviewed. To fully address the scope of this research topic, aspects of current and historical data involving a military overview as well as diversity were considered. Further, military officer career progression and military personality research were examined.

Demographics of Senior Officer Corps

The American DoD encompasses three military departments (i.e., Army, Navy, and Air Force) with six armed services (Council on Foreign Relations, 2020). The Army was organized as a sole entity as the Department of the Army, whereas the Marine Corps was organized with the Navy under the Department of Navy. The newly formed Space Force was organized with the Air Force under the Department of Air Force (Council on Foreign Relations, 2020). Although the Coast Guard was reorganized under the Department of Homeland Security, the Coast Guard is by law a branch of the U.S. Armed

Forces and considered a sea service (Council on Foreign Relations, 2020). The U.S. government has kept a concise accounting of statistical information regarding its military. The DoD (2022) reported that in 2021, the U.S. active-duty military was composed of 1,335,848 service members, 236,388 of whom were officers, and of those officers, 58,519 encompassed the Senior Officer Corps. Demographic data collected from the 236,388 officers indicated that 75.3% reported as White, 9% as Black, 5.8% as Asian, 2.3% as multiracial, 0.7% as American Indian or Alaska Native, 0.6% as Native Hawaiian or other Pacific Islander, and 6.3% as other/unknown (DoD, 2022). In contrast, overall demographic data collected from the 1,333,822 service members indicated that 68.9% reported as White, 17.2% as Black, 4.9% as Asian, 3.0% as multiracial, 1.1% as American Indian or Alaska Native, 1.2% as Native Hawaiian or other Pacific Islander, and 3.7% as other/unknown (DoD, 2022).

According to demographic data collected from the senior officer corps, White officers represented 77.8% (O4–O6) and 89.1% (O7–O10) in contrast with racial minority officers representing 22.2% (O4–O6) and 10.9% (O7–O10) in 2021 (DoD, 2022). The senior officer racial demographics have been predominantly unchanged since 2018 in the O4–O6 ranks with an average of 78% but appear to fluctuate in the O7–O10 ranks between 10 and 12% (DoD, 2019, 2020, 2021, 2022). The Military Leadership Diversity Commission (2011) pointed out that a correlation cannot be made between these demographic differences and a bias in the promotion process. Demographically, the U.S. military's senior leadership lacks in diversity, but the current level of diversity in the ranks is a product of integration due to the Civil Rights movement and the institution of

an all-volunteer military over the past five decades (Barroso, 2019). In the Civil War, 179,000 Black men fought for the Union Army, equating to 10% of Union soldiers, and 19,000 in the Union Navy; of those men, only 80 were commissioned officers (National Archives and Records Administration, 2017). By WWII, the draft provided a large number of service members, including 1,056,841 Black registrants, 13,311 Chinese, 20,080 Japanese, 1,320 Native Hawaiians, 19,567 Native Americans, 11,506 Filipinos, and 51,438 Puerto Ricans from the Selective Service (U.S. Army Center of Military History, 2021). By 1945, Black officers accounted for 1.9% of commissioned officers (Aponte et al., 2017). It was not until 1948 that the services desegregated, and they fully desegregated as the Vietnam War began (Aponte et al., 2017). Before the Civil Rights Movement, integration was not favored and at times was fought by senior officers (Baldwin, 2000). With the induction of an all-volunteer military, all races were given the opportunity to enlist or become an officer, given they met the requirements (Aponte et al., 2017). Due to low promotion rates of minority officers into the senior officer corps before the Civil Rights Movement, it took several decades for minority officers to promote to the senior officer corps and take senior leadership roles (McClellan, 2020). Because officer promotions entail years in grade/rank, it regularly takes an O1 approximately 15 years or more to be promoted to O5 (Kapp, 2016). Unlike their civilian counterparts, officers are typically commissioned in their 20s, so the senior officer corps of today are those trained in leadership for the past decades (Barroso, 2019). The military evolved at its own pace with historical events and diversity movements, explained below, leading the way to changes in recruitment, retention, and promotions.






















































Military Overview

In 1973, the United States ended the draft and began its all-volunteer armed force (Council on Foreign Relations, 2020). At that time, the military was composed of 1.9 million active-duty service members, compared to 1.3 million active-duty service members in 2020 (Council on Foreign Relations, 2020; DoD, 2021). In contrast, 1% of the American population was serving, compared to less than .5% of the population today (Council on Foreign Relations, 2020; DoD, 2021). The number of Americans willingly volunteering to serve their country has diminished, which decreases the strength and readiness of the military (Baldor, 2022; DoD, 2022). Service member retention as well as recruitment has decreased stemming from competitive labor markets, COVID-19 requirements, and lack of incentivization for military careers (Baldor, 2022). This decrease in manning justified a potential lowering of required DoD force structure, so that the military met national security concerns (Baldor, 2022). Gaps in positions due to a lack of personnel prohibit military readiness, but cutting the force structure deletes gapped positions and forces the services to reorganize while working with less personnel. Military leaders believe that quality is better than quantity, so lowering standards for recruitment is not optimal, given that in 2022, only 23% of potential young recruits met the military's mental and physical standards (Baldor, 2022). The country is only as strong as the military that protects it, and the U.S. military has always endeavored to keep its country protected (Lopez, 2022).

Military Structure

The Navy formed in October 1775 as the first American armed service replicating the British Naval rank structure (Bisno, 2019). The Coast Guard later mirrored the Navy's rank system (Bushatz, 2022). The U.S. Army, Air Force, Marine Corps, and Space Force mirrored the British Army officer rank structure which differs from the Naval rank structure (see Figure 1; Bushatz, 2022). Hierarchical in nature, the armed services share a pay grade system so that service members hierarchal status is clear, regardless of their armed service (Bushatz, 2022; Kapp; 2021). The enlisted paygrade begins at an E1 and officers begin with O1; enlisted cap at E9 and officers cap at O10 (Bushatz, 2022; Kapp; 2021). The 79th Congress passed Public Law 333 (1946) which permanently appointed the five-star rank of O10 to indicate theater or fleet command during a multifront war. This rank denotes five stars and was bestowed upon nine Americans; the last promoted 5 star was during WWII (Bushantz, 2022). Today, four stars indicate an O-10.

Figure 1*Ranks of the Armed Forces*

Paygrade	Army	Navy	Marine Corps	Air Force	Space Force
O1	Second Lieutenant 	Ensign 	Second Lieutenant 	Second Lieutenant 	Second Lieutenant 
O2	First Lieutenant 	Lieutenant Junior Grade 	First Lieutenant 	First Lieutenant 	First Lieutenant 
O3	Captain 	Lieutenant 	Captain 	Captain 	Captain 
O4	Major 	Lieutenant Commander 	Major 	Major 	Major 
O5	Lieutenant Colonel 	Commander 	Lieutenant Colonel 	Lieutenant Colonel 	Lieutenant Colonel 
O6	Colonel 	Captain 	Colonel 	Colonel 	Colonel 
O7	Brigadier General 	Rear Admiral Lower Half 	Brigadier General 	Brigadier General 	Brigadier General 
O8	Major General 	Rear Admiral Upper Half 	Major General 	Major General 	Major General 
O9	Lieutenant General 	Vice Admiral 	Lieutenant General 	Lieutenant General 	Lieutenant General 
O10	General 	Admiral 	General 	General 	General 
Wartime only	General of the Army 	Fleet Admiral 		General of the Air Force 	

Note. U.S. military officer ranks and insignia. Adapted from *Officer Insignia* by

Department of Defense, 2022 (<https://www.defense.gov/Our-Story/Insignias/#officer-insignia>).

In 1956, Congress passed Title 10 of the United States Code (10 U.S.C.) where the role of the armed forces was stated; Congress periodically provides amendments to Title 10 U.S.C (United States Code Armed Forces, 2018). Chapter 36 of Title 10 governs promotions and is discussed later in the literature review. Chapter 32 of Title 10 governs rank limitations of active duty O4-O10 ranked officers; limitations are not distinguished for O1-O3 ranks (United States Code Armed Forces, 2018). According to Title 10 U.S.C. § 523, the active-duty commissioned officers in each of the ranks stated shall correlate with the total number of active-duty commissioned officers' services at the end of the fiscal year (some officer categories exclusions were included). The number of O4-O10s cannot exceed the number outlined by their corresponding approved total active-duty commissioned officer total (United States Code Armed Forces, 2018). If the officer numbers exceed the corresponding total, under 10 U.S.C., the exceeding number of officers are evaluated for mandatory retirement or mandatory separation of those not able to retire (United States Code Armed Forces, 2018). During times of conflict, the U.S. military increased its numbers as approved by Congress and decreased its troop strength when conflicts and wars ceased (Kapp, 2016, United States Code Armed Forces, 2018). When troop numbers fluctuate, promotion opportunity numbers fluctuate as well. Kapp (2016) described the officer corps as a pyramid shape with the base of the pyramid being the O1-O3 ranked officers and the O4s as the middle and the O5-O10s as the top. Historically, the higher in rank, the more grade limitations exist by design of this competitive promotion system (Kapp, 2016, United States Code Armed Forces, 2018).

Diversity

Although a goal of the DoD is to represent the citizens it serves, the senior officer corps of the military is less diverse than the civilian population (DoD Board on Diversity and Inclusion, 2020). After WWII, President Truman signed an executive order mandating integration in the U.S. military in 1948 (Executive Order, 2018). This executive order was met with resistance from some flag and general officers stating integration could harm troop effectiveness and disrupt morale (Knowles, 2019). The services slowly followed the order with the Army setting a goal of 10% Blacks in each unit (Knowles, 2019). Before the integration order, Benjamin Davis, Sr was appointed the first minority General in the Army in 1940 (U.S. Department of Veteran Affairs, 2015). It took thirty years for the Navy and Air Force to promote a minority as a General/flag officer. Samuel Gravely was promoted in 1971 as the first minority Admiral in the Department of the Navy and Daniel James in 1970 as the first minority General in the Department of the Air Force (Naval History and Heritage Command, 2022; U.S. Department of Veteran Affairs, 2015). The Human Capital Theory was prevalent during the 1970s, which gave credence to the low numbers of promotions of minorities into the senior officer corps (Baldwin, 2002; Becker, 1982). Human Capital Theory posited the amount of education and training invested and /or offered to individuals differs by community and that the education/training investment equates to capital. The amount of human capital then reflects the individual's productivity (Holden & Biddle, 2017). Albrecht (1976) reviewed seminal human capital theory research as it pertained to military manpower. Some studies reviewed dealt with human capital related to the rate of

return of investment (ROI) in collegiate/graduate education (Becker, 1960; Hanoch, 1967) and education and abilities (Gintis, 1971; Griliches & Mason, 1972; Hanushek, 1971).

The ROI of collegiate education was established as 13% in regards to human capital but the effect of education and ability was not established due to the inability to separate the variables' results (Albrecht, 1976). Albrecht (1976) further relayed that military on-the-job training was estimated to increase human capital regarding position opportunities but failed to increase in salary compensation. Since minorities in the military had a difficult time competing for promotions due to their lesser qualifications and on-the-job training, their human capital prevented them from gaining experience or upward career tracks that included taking command (Baldwin, 2002; Becker, 1982). However, the promotions of Davis, Gravely, and James represented to minorities that the senior ranks were available to them, even if promotion rates of minority officers were less than white officers (Baldwin, 2002; U.S. Department of Veteran Affairs, 2015). McDonald (2019) elucidated those military investments in on-the-job trainings increased their troops' human capital investment. Contrary to the previously mentioned seminal research, McDonald (2019) posited the benefits of training human capital was lower than collegiate education. Further, McDonald's (2019) research indicated the increase in human capital through defense department training statistically influenced the U.S. economy by providing human capital to the civilian sector once troops separated or retired. Schultz (1961) ascertained human capital as human capability to adapt in changing situations for the better. The military trains their service members to adapt which increases their human capital and that adaptability is key to combat readiness and leadership (Reid, 2021).

Title VII of the Civil Rights Act of 1964 prohibited discrimination on a multitude of bases, and in 1972 Congress extended the protections of Title VII to employees of the U.S. military departments (Westergard, 2019). However, the 8th and 9th Circuit Courts have held that the military is exempt from Title VII given service members (a) work for the armed forces and not “military departments”, (b) are not categorized as employees considering they cannot quit at will and are subject to the military code of law and discipline. (Greene, 2019; McClellan, 2020; Westergard, 2019) Whereas the civilian counterparts working at the defense departments are subject to civilian laws and can quit at will (McClellan, 2020; Westergard, 2019). McClellan (2020) opined that there are no true mechanisms in place to prevent minorities from facing discrimination in the military because Title VII does not apply.

On the heel of the Civil Rights movement, the DoD took measures to correct what minorities viewed as a lack of equal opportunities for them in the military with commanding officers who failed to grasp cultural differences (Knowles, 2014; Westergard, 2019). The military sought to fill the gap between the cultural divides by establishing equal opportunity councils comprised of officers and enlisted. Affirmative Action was enacted through three components (a) Integration Goals and Tracking System, (b) Race considerations at service academies and Reserve Officer Training Corps (ROTC) programs, and (c) Representation by a minority at promotion boards (Knowles, 2014). This resulted in service academies increasing their minority admittance, and ROTC programs and scholarships were founded at historically Black colleges (HBC; Knowles, 2014). The establishment of ROTC programs and scholarships at HBCs led

way to formal mentoring programs (Davis, 2018). The ROCKS (2022), program, a private Army organization, mentors recruits and cadets so they begin their Army career well prepared and then continues to aid with professional development under the guise of strengthening the Army's officer corps. The Air Force Cadet Officer Mentor Action Program (AFCOMAP) replicated the ROCKS program by initially mentoring minority cadets, so they had a level playing field with their White counterparts, but the program has changed to include all races (AFCOMA, 2022; Davis, 2018). With the addition of the Space Force to the Department of the Air Force, the mentor program was renamed The Air Force Cadet Officer Mentor Association (AFCOMA, 2022). The National Naval Officers Association (2022) began as a minority recruitment effort for the Navy in minority communities. The AFCOMA is no longer a minority-centric mentoring program but a diverse program that recruits, mentors, and aids the professional development of its members (AFCOMA, 2022; Davis, 2018). Many consider these mentoring programs a cornerstone to the recruitment and retention of minorities (Davis, 2018). Seminal studies found minority officer retention rates improved when led by minority commanding officers and senior leadership (Baldwin, 2000; Brown et al., 2020; Stewart & Firestone, 1992). Greene (2019) analyzed the effect of minority command on minority sailor retention and found statistically significant evidence that same-minority command leadership increases the probability of retention, especially amongst Hispanic O4-O6s. Members of Richard and Molloy's (2020) qualitative study stated a desire for equality but were positively disposed towards the diversity of their commands. The participants articulated a lack of diversity in the senior officer corps and indicated the need for a more

“diverse leadership structure” in both enlisted and officers (Richard & Molloy, p. 10, 2020).

Diversity issues continued to arise in the military prompting Secretary of Defense Esper (2020) to enact a three-prong approach against discrimination, prejudice, and bias in the DoD. Esper’s (2020) memorandum aimed to improve “diversity, inclusion, and equal opportunity” for all military members (para 1). To begin, the DoD would remove all photographs from promotion boards and selection processes as to remove any implicit bias of race or gender. The memorandum followed by updating policies involving equal opportunity and diversity, analysis of officer retention and promotions, create bias awareness training and intervention techniques, required education on unconscious bias, and a review of grooming and hairstyle policies for racial bias (Esper, 2020; Office of the Chief of Naval Operations, 2020). Following Esper’s direction, the armed services began their own diversity committees. The U.S. Navy established Task Force One which addressed issues impacting naval readiness (i.e., racism, sexism, implicit bias, explicit bias) and the Air Force created a Diversity and Inclusion task force (Krishnamurthy, 2022). The DoD Board of Diversity and Inclusion (2020) recommended transparency of promotion board results so that demographic and other data pivotal to promotions be released to improve DoD transparency regarding career progressions.

Career Progression

The career progression of American military officers begins with their commissioning following Officer Candidate School or ROTC program (Knowles, 2014; Maclean, 2017). All original officer appointments for those entering as O1-O3s are

appointed solely by the President whereas those entering as O4-O6 are appointed commissioned officers by the President in lieu of Senate approval (Kapp, 2016; United States Code Armed Forces, 2018). When officers select for promotion, their promotion entails Presidential approval and Senate confirmation, which reflects officer promotions as bound by law and congressional approval (Kapp, 2016; Knowles, 2014; Maclean, 2017).

The hierarchical nature of the military, as outlined in 10 U.S.C., provides structure for career progression (Kapp, 2016; United States Code Armed Forces, 2018). Each rank has a mandatory minimum “time in grade” before consideration for promotion to the next higher rank with that window of time regarded as *promotion timing* (Kapp, 2016, p.10; United States Code Armed Forces, 2018). Military data indicated that officers’ time in grade typically exceeds the minimum stated in 10 U.S.C. but meets the guidelines for promotion timing in the Defense Officer Personnel Management Act of 1980 (DOPMA; Kapp, 2016; Rostker et al., 1992). Subsequently, with each promotion there is a stated *promotion opportunity* which pertains to the percentage of officers within that promotion group chosen for promotion to the higher rank (Kapp, 2016). Promotion opportunity fluctuates given the needs of military strength (e.g., war-time, peace-time), so it is not dictated by law but guidelines were included with DOPMA (Rostker et al., 1992). While there are promotion opportunities by rank, promotion opportunities narrow down further by specialty designation due to specific designations requiring more officers than others (Baldwin, 2000; Davis, 2018). For example, according to DOPMA guidelines, an O5 has a 50% chance of promoting but the requirements for O5 special operators (SEAL)

were higher than intelligence officers, so a SEAL had a 90% promotion opportunity whereas it narrowed down for intelligence officers to 42% in fiscal year 2022 (U.S. Department of Navy, 2022; U.S. Navy Personnel Command, 2022). Given the date of DOPMA and the changes in the world, some believe that Congress should modernize the military promotion system to reflect today's military settings and needs of the military (Friedman, 2018; Golan et al., 2021; Military Compensation to Support Retention, Performance, and Talent Management, 2019). Although Congress amends 10 U.S.C., DOPMA has not changed since the Carter administration (MCSRPTM, 2019; Rostker et al., 1992).

The hierarchical military system stipulates grade limitations on paygrades O4-O10 due to fewer authorized positions (Kapp, 2016; Kapp, 2021; United States Code Armed Forces, 2018). The officer corps pyramid form reflects the grade limitations with a decrease in available positions as rank increases. The grade limitations purposely make promoting to the senior officer corps more difficult. Evaluations for promotion rely primarily on objective criteria through the observation of the officer's superior, so their evaluation may be subjective (Golan et al., 2021). The subjective nature of the evaluation was referenced as the glass-ceiling to the senior officer corps (Baldwin & Rothwell, 1993; Golan et al., 2021).

Given the objective and subjective nature of officer evaluations, officers evoke perceptions of what positively and negatively affect their promotion potential. Conklin (2018) researched whether certain Air Force assignments negatively affect promotions. MAF squadron commanders opined certain assignments hindered career progression, but

the researcher did not find any statistically significant indication of a negative effect (Conklin, 2018). Another factor is graduate degrees. While graduate degrees are positively noted in officer records, the type of university does not distinguish in promotions. When comparing distance learning graduate degree officers with traditional residential graduate degree officers, no statistical difference was found to affect promotions, only obtaining a graduate degree indicated a statistical significance in promotions (Bacolod & Chaudhary, 2018). Unique to the Air Force, educational background is no longer presented at promotion boards (Albright, 2022). Albright's (2022) study indicated a statistically significant difference in promotion rates for those without graduate degrees following the policy implementation compared to previous promotion selection board statistics.

In the U.S., military promotion boards minutes are held confidential with only results and statistics released (Baldwin & Rothwell, 1993; United States Code Armed Forces, 2018; U.S. Department of Navy, 2022). The process during selection boards varies by service but each board convenes under the same regulations placed forth under 10 U.S.C. and all diversity memorandums placed by the Secretary of Defense. This is to prevent a promotion by personal connections, similar to the Chinese *Guanxi*, to prevent a rule-based system where only those within the *guanxi* network promote (Wang & Wang, 2018). The regulations also prevent socioeconomic backgrounds restricting promotions as researched in the United Kingdom where a class ceiling exists (Clark et al., 2022). In WWII, a class ceiling was evident in the U.S. but with the evolution of an all-volunteer military, a majority of the senior officer corps have a middle-class background

eliminating the class ceiling in the senior officer corps (Maclean, 2017; Watkins & Shirk, 2008). By design, the objective and subjective factors help promotion boards select the best qualified officer (Rostker et al., 1992; CRS, 2016). However, Tarsiuk (2019) opined that the personnel composition of the board proves influential to selection outcome. Having multiple personnel on the board familiar/unfamiliar with the designator or specialty of the officer presented effects their perception of the officer's record for promotion (Tarsiuk, 2019).

According to DOPMA, every O3 and above promotion board ranks officers from best qualified to least qualified with the highest ranked recommended for promotion until all the promotion billets are filled (Rostker et al., 1992; CRS, 2016). This promotion system allows for many fully qualified and excellent officers to be passed over for promotion due to the limited promotion billets. These officers have a choice between continuing their service, separating from the service, or retiring (CRS, 2016). Choosing to continue their service enables the officers a second and third chance at promoting. Since DOPMA limits senior officer corps billets, the services rely on those passed over to separate or retire, so those officer's billets become available (Rostker et al., 1992; CRS, 2016). Any service member may retire after twenty years of service, which correlates with senior leadership positions. In 2020, 438 active-duty officers separated due to nonselection for promotion compared with 6,489 active-duty officers retiring with a minimum of twenty years of service (DoD, 2021). Officers that do not promote, regardless of whether they choose to continue their service or leave the military, may internalize the reasons for their failure to promote as it is a matter of personal pride

(Baldwin, 1990; Baldwin & Rothwell, 1993). Given the confidentiality of the board proceedings, officers are left reviewing their records looking for any contributing factors for their nonselection such as their personality or race. Schmidt (2014) opined that personality traits contribute to occupational performances similar to military promotions due to the hierarchal nature.

Military and Personality

The U.S. military began implementing the use of personality assessments during the precipice of WWI (Gibby & Zicker, 2008). Noted as the first formal personality assessment, the Woodworth Personal Data Sheet (WPDS) tested military recruits on emotional stability (Gibby & Zicker, 2008). This began the military's use of personality tests to assess and select for special duty assignments, combat trauma symptoms, and psychological screening (Butcher et al., 1990; Dalton et al., 1993; Gibby & Zicker, 2008; Kennedy et al., 2012; Kennedy et al., 2015). In the early twentieth century when troops returned home from war, with what was classified as shell shock, personality assessments were just rising in the field of psychology and psychiatry (Gibby & Zicker, 2008). In the 1940s, personality assessments were explored as an avenue to predict performance (Stark et al., 2014) which led to personality variables measuring performance criteria in the Assessment of Background and Life Experiences Questionnaire (ABLE; White et al., 1993). The Army sponsored ABLE as a long-term study beginning in 1982 to assist in selecting and classifying jobs for enlisted soldiers using temperament measures (White et al., 1982). ABLE was one of the first assessments to correlate personality temperaments with job performance. Since ABLE, the U.S. military services developed the Assessment

of Individual Motivation (AIM), The Navy Computer Adaptive Personality Scales (NCAPS), and the Tailored Adaptive Personality Assessment System (TAPAS) to assist in determining occupational positions; NCAPS was added as part of the Special Operation enlisted selection process for the Navy (Stark et al., 2014). The service academies and Professional Military Education (PDE; i.e., service war colleges) incorporated personality assessments into their curriculum as a way for officers to understand themselves, their strengths and weaknesses, and as a means to develop their leadership skills (Happawana, 2021). Assessments based on the FFM are part of these military trainings given the notion that Openness correlates moderately with intelligence which is encapsulated in a leader (Atwater & Yammarino, 1993; Costa & McCrae, 1992).

The military relies upon different types of assessments (i.e., MBTI, MMPI, Hogan, NEO-PI-3) to predict military performance and personnel selection (Boe & Bang, 2017) but the challenge every service faced was individual differences in personality and behaviors (Biswas-Diener et al., 2011). Identifying and developing character strengths has been achieved through personality assessments based on the FFM which aids in characterizing effective leader behaviors (Biswas-Diener et al., 2011; Peterson & Seligman, 2004). Biswas-Diener et al. (2011) researched a strengths development approach which views traits as not fixed but fluid due to adapting traits to achieve goals and situations. Likened to the positive psychology notion that human personality adapts when individuals understand their strengths, Biswas-Diener et al. (2011) noted qualitatively that humans possess personality blind spots perceived as an ordinary trait until that trait strength was complimented by others. Looking at the FFM personality

dimensions, character strengths relate such as teamwork and agreeableness; persistence and self-regulation with conscientiousness; leadership with extraversion (Peterson & Seligman, 2004). A quantitative study compared 139 U.S. Navy SEALs by experience level to develop a baseline personality and demographic to determine a profile for selection using the NEO Personality Inventory (Braun et al., 1994). Braun et al. (1994) found the more-experienced SEALs reported higher Conscientiousness and lower Extraversion than less-experienced SEALs but age was deemed a factor in the effects (Braun et al., 1994). Enlisted SEALs indicated significantly lower Extraversion and Conscientiousness to Commissioned Officer SEALs; however, when compared to civilian data, SEALs reported lower neuroticism and agreeableness scores, average to lower scores of Openness, and higher levels of Conscientiousness and Extraversion (Braun et al., 1994). The study allowed the Naval Special Operations Command to create an average SEAL profile for recruitment, selections, and training (Braun et al., 1994). An historical overview of the psychological aspect of Special Operations selection found that low neuroticism and extraversion were successful traits in high-risk operational careers (Banks, 2006).

Johnson and Hill (2009) sought to find if certain FFM personality characteristic would evoke *effective* verse *noneffective* military leaders by sampling 57 Army National Guard officers. This quantitative study used the NEO-PI-R to measure the officers' FFM by asking the officers to take the NEO-PI-R twice: first, by imagining the most effective leader they had, and second, by imagining the least effective officer they had encountered (Johnson & Hill, 2009). The officers were directed to think about that leader and how the

leader treated them as well as how the leader behaved before taking the assessment. Johnson and Hill (2009) found that effective leaders scored lower in neuroticism than ineffective leaders but higher in Conscientiousness, extraversion, agreeableness, and openness to experience. Previously, researchers indicated that the difference between effective and ineffective leaders could lie in the difference in personality traits (Hogan et al., 1994; Judge et al., 2002); Johnson and Hill's (2009) findings supported the previous research and lend an insight into military leader effectiveness personality traits. However, that research conflicts with Gardner et al. (2012) whose research indicated that high conscientiousness and low openness to experience person would fit better in a hierarchal system such as the military. Gardner et al. (2012) examined the relationship between recruitment strategy (i.e., realistic and traditional) and the FFM to person-organization fit using 234 undergraduate business school students. The organization fit covered clans, adhocracy, hierarchy, and market which is how Gardner et al. (2012) noted the military correlation without having any military participants.

As American services developed and sought personality assessments to strengthen their military, other countries followed suit. In Singapore, Ployhart et al. (2001) used an FFM-based assessment by Goldberg that found Singaporean soldiers' openness trait predicted maximum performance while neuroticism traits predicted typical performance; high levels of extraversion were found in both performances indicating an overall presence in the research population. The quantitative Ployhart et al. (2001) study had 1,259 Singaporean military participants where they tested to establish criteria (i.e., typical, maximum) for leadership performance and if the FFM traits differed between the

groups. According to the data, the best predictor for maximum military performance is the openness trait (Ployhart et al., 2001). A seminal study in India sought to examine the correlation between personality and performance using 607 cadets from the Armed Forces Training Academy (Bobdey et al., 2021). This quantitative study used the NEO-PI-R to assess the cadets' personality and surveys assessing their Officer Like Qualities (OLQ), Outdoor Activities (ODT), Academics, and Extracurricular Activities (ECA) for performance measurement (Bobdey et al., 2021). The study found correlated low scores of neuroticism and high scores of conscientiousness with effective officer military service (Bobdey et al., 2021). An earlier quantitative Australian study, examined personality traits and leadership effectiveness (McCormick & Mellor, 2002). With 99 participants from the Australian Army Command and Staff College (ACSC) and the 4th Brigade, McCormick and Mellor (2002) surveyed leader effectiveness with the Army Evaluation and Development Report- Officers (ERDO) and the NEO-PI-R for personality traits. The study was divided into two analyses to examine the differences in personality traits between the Army participants by position and rank. The first analysis comprised of O4-O5 officers in attendance at the ACSC in one group contrasted with a second group of O2-O4s who were not selected to attend the promotion course at the ACSC. The first analysis found that officers lower in extraversion and higher in openness and conscientiousness were attending ACSC than the non-promotion group (McCormick & Mellor, 2002). The second analysis sought to examine whether FFM traits predicted effectiveness in the same groups; that analysis indicated high extraversion and average conscientiousness contributing significantly in effectiveness prediction. A third analysis

sought to determine the FFM traits and EDRO scores of senior officers and found that low extraversion and average openness and conscientiousness presented (McCormick & Mellor, 2002). McCormick and Mellor (2002) overall found that leadership effectiveness correlated with high conscientiousness and low extraversion in the Australian Army officers. In contrast, Klee and Renner (2016) conducted a quantitative study with 235 German soldiers to examine if the Rescue Personality, as coined by Mitchell (1983), aligns with the German military personality and how it compares to the normal German population. The Rescue Personality profile encompasses low neuroticism and agreeableness traits, but high extraversion and conscientiousness traits. Using the Hamburg Personality Inventory (HPI-K) to measure the FFM and a German version of the Resilience Scale (RS-25), the study found German soldiers scored higher on extraversion and conscientiousness but lower on neuroticism, openness, and agreeableness than the normal population (Klee & Renner, 2016).

Similar to the U.S., the Norwegian military instituted personality assessments in their armed forces selection process (Skuglund et al., 2021). A mixed-methods study researched the Norwegian Special Operations Forces to examine a relationship between FFM traits and selection ratings (i.e., interviews, field-exercise observation) with 551 military officer participants (Skuglund et al., 2021). The NEO-PI-3 was used to measure the participants personality traits with the Norwegian Military Personality Inventory (NMPI) for test validation, and were rated on their mission command leadership competencies in both an interview and a war-simulated field exercise observation (Skuglund et al., 2021). Leadership competencies were associated with Officer Aptitude

Ratings (OAR). Skuglund et al. (2021) found that FFM characteristics and OAR were related to a certain degree; extraversion and openness had small, outlying positive and negative relations. Meaning positive extraversion and negative openness predicted a small effect on competency ratings in the study (Skuglund et al., 2021). Previous Norwegian researchers examined the relationship between FFM characteristics and members of the Norwegian military Special Operations Forces (NORSOF) by questioning if (a) personality was impacted by the age, number of deployments, and rank, (b) if employees within different commands within NORSOF had differing FFM traits, and (c) if SOF-operators' FFM traits differed from conventional military FFM traits (Skuglund et al., 2020). This quantitative study used the NMPI to obtain personality information with 190 participants. The researchers found (a) lower emotional stability (i.e., low neuroticism) in young NORSOF than older NORSOF members, higher agreeableness and slightly lower neuroticism by those without deployment experience, and officers scored higher in extraversion than specialists; (b) No significant differences were found in FFM traits between NORSOF command employees; and (c) a personality profile emerged of SOF operators, categorized by lower extraversion and agreeableness, and higher neuroticism than conventional Norwegian officers (Skuglund et al., 2020).

However, Danish and Dutch Special Operations Forces identified higher levels of conscientiousness, agreeableness, and extraversion with low levels of neuroticism in their Special Operation communities (Bech et al., 2021; Huijzer et al., 2022). Bech et al. (2021) examined the personality traits of Special Operation Forces from the Danish Naval Special Warfare Group (i.e., Frogman) and how those traits differed from civilians.

This quantitative study researched whether (a) Frogman personality traits differed from Danish university students, and (b) if Frogman personality traits were affected by training compared to Danish university students schooling (Bech et al., 2021). Participants for this study included 32 males Frogman and 192 Danish Technical University students that took the Big Five Inventory (BFI) to establish personality traits (Bech et al., 2021). Results of this Danish study indicate that (a) Frogman had higher levels of conscientiousness and agreeableness with no discernable differences in extraversion, neuroticism, or openness, and (b) training affects personality traits of Frogmen by increasing their level of extraversion, conscientiousness, and openness with lower neuroticism levels; university students indicated an increase in conscientiousness levels after schooling (Bech et al., 2021). A longitudinal, quantitative Israeli examined personality traits, stress-related symptoms, and neural activity to assess the neuroticism trait in 50 Israeli Defense Force members (Magal et al., 2021). To assess personality traits, Magal et al. (2021) used the NEO-FFI; neural activity was assessed by the *f*MRI and questionnaires assessed posttraumatic and depressive symptoms. The study found that neuroticism levels increased during IDF military service but declined after; conscientiousness increased during and after military service (Magal et al., 2021). The rise in neuroticism was attributed to combat stress and took a year to achieve pre-military service level after leaving military service (Magal et al., 2021). While the FFM generalizes across cultures, a difference in prevalent personality traits is not unexpected as cultures in themselves vary (McCrae & Costa, 1997). The use of personality

assessments aids in decoding who makes a good leader and as such military leaders need to be equally fit psychologically as physically (Bobdey et al., 2019)

Summary and Conclusion

In summary, the military, diversity, and personality were explored extensively. This literature review covered the military as an overview, historical and current data, diversity in the military, military career progression, and personality research regarding military. Of the 1.3 million military active-duty personnel, 58,519 servicemembers make up the senior officer corps with 24.7% minority officers. President Truman mandated de-segregation in 1948 which took years to truly implement. The DoD implemented several programs to de-segregate and increase diversity in both enlisted and officers corps. The addition of collegiate mentoring programs and efforts to minimize implicit bias in promotions and selections helped to establish a more diverse leadership structure. An overview of officer career progression included promotion timing and promotion opportunities which vary by rank, specialization, and time in service which explained the promotion process. In reviewing the literature, personality research of the US military began in WWI when the DoD used personality profiles for assessments and selection. Internationally, militaries continued to assess leadership personality profiles that vary by culture, nationality, and specializations. While there is a plethora of information relating to the military and personality dynamics, there is no research into the relationship between personality traits and promotion.

In conclusion, because of a lack of research in this area, I examined whether officer personality traits predicted promotion into the senior officer corps. My intention

was to extend knowledge to the military community concerning personalities in the senior officer corps and how race played a moderating role. Identification of such personality dynamics in senior officer leadership personnel enables junior officers to nurture their personality traits that positively influence promotions. In chapter three, I present the study's methodology on how the relationship between personality and promotion, while moderating for race, was be examined.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to examine the extent to which personality characteristics predict U.S. military promotion into the senior officer corps, while considering the moderating role of race. The research design for this study was a cross-sectional design (Creswell & Creswell, 2018; Singh Setia, 2016) using the survey method via an online platform. The key independent variables for this study were McCrae and Costa's (1987) personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism). Race served as the moderating variable, but demographic information (age, years in service, gender, designator/branch, and education level) were collected for descriptive statistics. Dependent variables consisted of the two promotion status groups related to the senior officer corps of the U.S. military. The data were examined using binary logistic regression.

This chapter presents a review of the methods used in the study. The research design and rationale of the cross-sectional design, population sampling and procedures, recruitment, data collection, and instrumentation are discussed. This chapter concludes with an overview of threats to validity and ethical considerations.

Research Design and Rationale

This quantitative research used the cross-sectional design by using self-report data collected from current and former U.S. Navy and Army officers. This quantitative design was most applicable for this study as it offered objective documentation of the constructs of inquiry (i.e., personality traits, race) while allowing for comparisons between the two

promotion status groups. Nonexperimental research techniques are used in correlational research where a measurement of two variables determines a statistical relationship (Price et al., 2015). Singh Setia (2016) stated that one type of correlational study is cross-sectional research, which typically uses population-based questionnaires to collect data at one instance and analyze the relationship of the data. In this type of research design, not causation but correlation is determined, meaning a relationship exists between variables (Sperandi, 2014). The independent variables in this study were the FFM personality traits (i.e., openness, conscientiousness, extraversion, agreeableness, and neuroticism). The dependent variables consisted of two promotion status groups related to the senior officer corps of the U.S. military. Race was the moderating variable. The data collection tool was the International Personality Item (IPIP-NEO-60) survey and a demographic questionnaire.

Comparative analyses indicated whether similarities or differences in personality characteristics existed between the two promotion status groups. Dummy coding represented the five personality types as well as the two promotion status groups. To correctly interpret the moderating effects, dummy coding was used to represent race. The operationalization of constructs section below displays the dummy coding for this study.

The cross-sectional design was beneficial given the ability to generalize the findings to a broader military group beyond the selected officers in this study. This design also allowed for replication studies that may indicate similar trends in other U.S. military services or international military services.

Methodology

Population

The target population for this study included active-duty, separated, or retired U.S. Army and Naval officers across the country fitting into one of the two promotion status groups (i.e., O4s who failed to promote to O5 and O5–O10s who promoted to senior officer) while serving in the all-volunteer military. This population was located throughout the world but predominately in the United States. Determining the precise number of O4s who were passed over for O5 is difficult, as is determining the precise number of retired O5–O10s. However, the DoD (2020) gathers the statistics for active-duty members. There were 23,715 Army and Naval officers in the senior officer corps with an additional 5,323 documented as retired in 2020 (DoD, 2020), and the Military Officers Association of America has over 20k members, which encapsulates individuals belonging to either promotion status group.

Sampling and Sampling Procedures

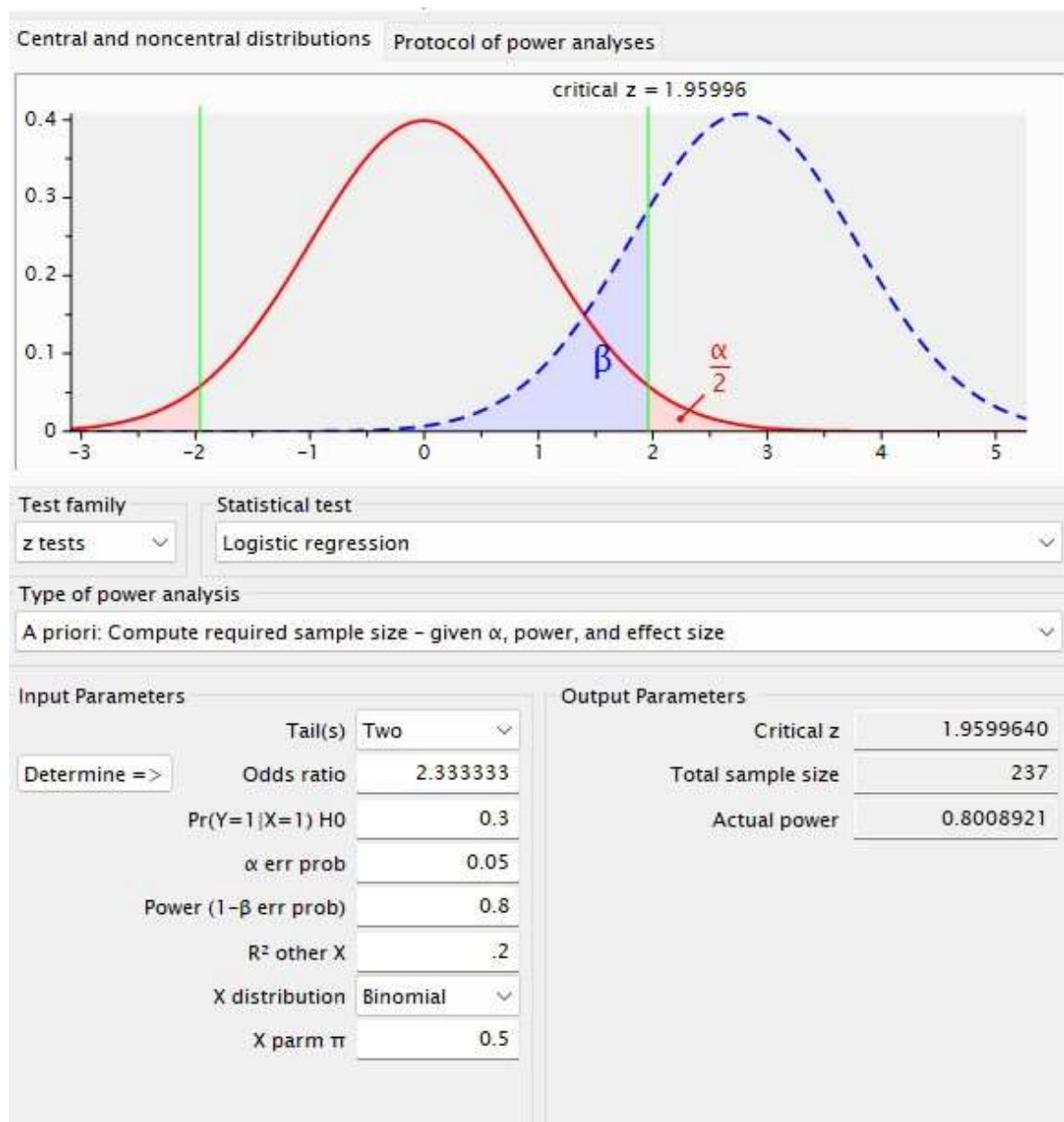
I used voluntary response sampling of Army and Naval officers. Social media, LinkedIn, and military officers' associations provided military officers who belonged to one of the two promotion status groups to volunteer. The sample participants used the secure, online data collection system Qualtrics. All participants were active-duty, separated, or retired from active-duty Army and Naval officers.

G* Power 3.1 software (Faul et al., 2007) was used to calculate the sample size after considering the research questions, corresponding analyses, and a priori analysis. The a priori analysis based on logistic regression determined that the sample size was

237. Based on standard research practices (Cohen, 1988), the analysis was conducted using 80% power, the alpha level at .05 and an odds ratio of 2.3. Figure 2 reflects the sample size output given by the G* Power 3.1 software.

Figure 2

G Power Output for Sample Size*



Procedures for Recruitment, Participation, and Data Collection

This study recruited qualifying Army and Naval officers through social media, LinkedIn, and military officers' associations that required military status for acceptance. Any officer interested in participating in this research accessed the study by selecting the Qualtrics link on the recruitment post. The link to Qualtrics began with a consent form and then access to the demographic questionnaire and IPIP-NEO-60. Qualtrics did not track the participants' IP address, ensuring that their individual responses remained confidential.

Every participant signed a consent form that also stated that they met the criteria to participate (i.e., rank and Armed Service) and included an informed consent section indicating that all responses would be kept confidential. After the consent form was submitted, the participants received access to the surveys on Qualtrics. All survey data were collected via Qualtrics, the online data collection tool. Qualtrics contained the participants' access to the IPIP-NEO-60 survey and a demographic survey. The self-rating IPIP-NEO-60 measured their five factor personality traits, and the demographic questionnaire measured the race moderating variable. Participants had the right to terminate participation at any time as stated on the informed consent form. The consent form also addressed the risks and benefits of the research study.

A termination option was included in each stage of each survey via the exit link. The exit link led to a page expressing my appreciation for participating in the survey and my contact information if they had any questions.

Instrumentation and Operationalization of Constructs

Instruments for this study had an academic history of providing reliable and valid results in academic research. The publishers of the IPIP-NEO-60 instruments were contacted for permission for academic research purposes, and access was granted as the instrument is open-source. This section reviews the instruments for this study.

International Personality Item Pool (IPIP-NEO-60)

The study used Maples-Keller et al.'s (2019) IPIP-NEO-60 to assess the predictor variable. The basis of the IPIP-NEO-60 was developed using item response theory to generate a 60-question survey focusing on the FFM (Maples-Keller et al., 2019). Maples-Keller et al. used undergraduate participants to compare the FFM trait representation of the IPIP-NEO-60 with the NEO-PI-R, NEO-FFI, IPIP-NEO-300, and Big Five Inventory 2. The comparisons indicated equal representation of the traits studied compared to the other FFM assessments (Maples-Keller et al., 2019). This self-report survey consists of 60 questions measuring the five domains of personality (openness, conscientiousness, extraversion, agreeableness, and neuroticism) influenced by Goldberg et al.'s (2006) 300-item IPIP-NEO. The IPIP-NEO-60 was chosen for this study because it appropriately measures the FFM personality characteristics and is used internationally in research, specifically in military communities. The five domains consist of six facets each giving clarity to the trait, with equal weight given to each FFM trait (Maples-Keller et al., 2019). Basing their instrument on Costa and McCrae's (1992) NEO-FFI, Maples-Keller et al. listed the facets by domain: Openness facets include fantasy, esthetics, feelings, actions, ideas, and values; conscientiousness consists of competence, order, dutifulness,

achievement striving, self-discipline, and deliberation; extraversion consists of warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotion; agreeableness includes trust, straightforwardness, altruism, compliance, modesty, and tender mindedness; and neuroticism includes anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability to stress. The five personality factors are operationally defined as follows:

Openness—the level of one’s open mind to new ideas or experience

Conscientiousness—the level of constraint or self-regulation

Extraversion—the level of active interaction with others

Agreeableness—the level of prosocial or antisocial interactions with others

Neuroticism—the level of negative emotionality (Costa & McCrae, 1992)

Scoring

The IPIP-NEO-60 measures the five personality dimensions using a self-report instrument. Since Maples-Keller et al. (2019) made their instrument open-source, this study relied on the available electronic version. The IPIP-NEO-60 took participants approximately 15 minutes to complete online via Qualtrics. This instrument uses a 5-point Likert scale for each 60 questions with options of (a) *disagree strongly*, (b) *disagree a little*, (c) *neither agree nor disagree*, (d) *agree a little*, and (e) *strongly agree*. Scoring the assessment involved multiple steps, beginning by noting raw scores for each of the personality factors and their correlating questions: Openness to experience was scored from Questions 25–36; conscientiousness was scored from Questions 49–60; extraversion was scored from Questions 13–23; agreeableness was scored from Questions

37–48; and neuroticism was scored from Questions 1–12. The raw score was converted into the normative percentile score (*T* score) and then a rank interpretation. Similar to Costa and McCrae (1992), Maples-Keller et al. designed the IPIP-NEO-60 to indicate a low, average, or high score for each personality domain. The higher the score, the higher the likelihood of an individual displaying that personality facet. For example, Costa and McCrae (1992) posited, and Maples-Keller et al. concurred, that the higher a person is on the openness scale, the higher the likelihood for the person to display fantasy, esthetics, feelings, actions, ideas, and values. The higher a person is on the conscientiousness scale, the higher the likelihood for the person to display competence, order, dutifulness, achievement striving, self-discipline, and deliberation. The higher a person is on the extraversion scale, the higher the likelihood for the person to display warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotion. The higher a person is on the agreeableness scale, the higher the likelihood for the person to display trust, straightforwardness, altruism, compliance, modesty, and tender mindedness. The higher a person is on the neuroticism scale, the higher the likelihood for the person to display anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability to stress. An “intent to use” email, regarding the use the IPIP-NEO-60, was granted for dissertation research purposes from the author. A copy of that email is located in Appendix B.

Psychometric Properties

Maples-Keller et al. (2019) tested the IPIP-NEO-60 for reliability and validity. To establish the criterion validity of the IPIP-NEO-60, the authors calculated the results

between the IPIP-NEO-60, the NEO-FFI, and the NEO-PI-R, resulting in good convergent validity between the IPIP-NEO-60 and the NEO-FFI (.79 and .73, respectively); between the IPIP-NEO-60 and the NEO-PI-R the convergent correlations were .85 and .76, respectively (Maples-Keller et al., 2019). The IPIP-NEO-60 authors included validity measures to weigh response accuracy in a three-question format. If the instrument examiner notices questionable responses, they are to evaluate the assessment for validity. The IPIP-NEO's reliability has been excellent, with domains ranging from .74-.89. Maples-Keller et al. (2019) demonstrated short-term test reliability for the IPIP-NEO-60 with the NEO-FFI-3 and NEO-PI-R confirming long-term test reliability. After IRB approval to collect data, but before running any statistical analysis, I computed and reported Cronbach's alphas for each of the scales being used.

Demographics

Appendix A contains the questionnaire that I used to collect participants' demographic information including race, age, years in service, gender, and education level. The race information was used to determine the moderating effect of race on personality traits and promotion status group. The remaining demographic information provided data for descriptive statistics such as the average years of military service, average age of participant, number of male and female participants, number of participants by designator/branch, and percentage of participants with bachelor's degrees, master's degrees, and doctorates. The latter demographic information did not affect the research but provided additional descriptive reporting.

Operationalization of Constructs

This research required several quantitative variables to be collected. Table 1 displays an explanation of each type of variable and its coding.

Table 1

Variables and Coding

Research question	Variable type	Variable source	Variable name	Variable categories	Value label		
RQ1	Dependent	Demographic form	Promotion group	O4	1		
				O5	2		
				O6	2		
				O7	2		
				O8	2		
				O9	2		
				O10	2		
				Prefer not to answer (Excluded from analysis)	99		
				Demographic form	Gender	Male	1
						Female	2
		Prefer not to answer	99				
		Demographic form	Age			30–35	1
						36–40	2
						41–45	3
				46–50	4		
				51–55	5		
		56–60	6				
		61–65	7				
		65 and older	8				
		Prefer not to answer (Excluded from analysis)	99				

Research question	Variable type	Variable source	Variable name	Variable categories	Value label
		Demographic form	Years in service	Less than 15	1
				15–20	2
				21–25	3
				26–30	4
				31–35	5
				36+	6
				Prefer not to answer (Excluded from analysis)	99
		Demographic form	Service	Army	1
				Navy	2
				Prefer not to answer (Excluded from analysis)	99
		Demographic form	Designator	Restricted Line Officer	1
				Unrestricted Line Officer	2
				Staff Corps Officer	3
				Limited Duty Officers	4
				Combat Arms Branch	5
				Combat Support Branch	6
				Combat Service Support Branch	7
				Special Branch	8
				Prefer not to answer (Excluded from analysis)	99
		Demographic form	Education level	Bachelor's degree	1
				Master's degree	2

Research question	Variable type	Variable source	Variable name	Variable categories	Value label
RQ1	Independent	IPIP-NEO-60	Personality Trait Level	Professional degree	3
				Doctorate degree	4
				Prefer not to answer (Excluded from analysis)	99
				Score on IPI-NEO-60	
				Openness: 44–	1
				Openness: 45–55	2
				Openness: 56+	3
				Conscientiousness: 44–	1
				Conscientiousness: 45–55	2
				Conscientiousness: 56+	3
				Extraversion: 44–	1
				Extraversion: 45–55	2
				Extraversion: 56+	3
				Agreeableness: 44–	1
				Agreeableness: 45–55	2
				Agreeableness: 56+	3
				Neuroticism: 44–	1
				Neuroticism: 45–55	2
				Neuroticism: 56+	3
Not answered	99				
RQ2	Moderating	Demographic form	Race	Caucasian	1
				non-Caucasian	2
				Prefer not to answer (Excluded from analysis)	99

Data Analysis Plan

The main objective of this study was to analyze the relationship of personality characteristics between officers in two sample groups related to the senior officer corps of the U.S. military, while considering the moderating role of race. In this study, the personality characteristics of officers were the independent variables, the promotion status to the senior officer corps was the dependent variable, and race served as the moderating variable. Data (i.e., age, years in service, education level) from the demographic questionnaire served as descriptive statistics for the study. The two promotion status groups were (a) Junior officers (i.e., O4) who failed to promote to the senior officer corps, and (b) Senior officers (i.e., O5-10). G*Power calculated the sample size of 237. Using IBM SPSS Version 28 statistical software, I conducted data analyses. According to Maples-Keller et al. (2019), data cleaning and screening includes when ten or more responses are left blank then the assessment is considered invalid. When nine or less responses are left blank on the IPIP-NEO-60, those items were scored as a “neither inaccurate/accurate” response. Maples-Keller et al. (2019) designed the assumptions based on the 10 or more responses left blank including not only each of the five factors but their correlating sub-score levels. So, based on the assessment’s design with 12 questions correlating with personality factors, missing data of one factor did not influence another personality factor’s score. Each of the five personality factors were the sum of the 12 coordinating questions. That raw score converted to the *T* score for a ranking interpretation.

The following research questions guided this study:

RQ1: To what extent do personality characteristics, as measured by the IPIP-NEO-60, predict the officer promotion groups in the United States military?

H₀1.1: The personality characteristic of Openness does not predict officer promotion groups in the U.S. military.

H_A1.1: The personality characteristic of Openness does predict officer promotion groups in the U.S. military.

H₀1.2: The personality characteristic of Conscientiousness does not predict officer promotion groups in the U.S. military.

H_A1.2: The personality characteristic of Conscientiousness does predict officer promotion groups in the U.S. military.

H₀1.3: The personality characteristic of Extraversion does not predict officer promotion groups in the U.S. military.

H_A1.3: The personality characteristic of Extraversion does predict officer promotion groups in the U.S. military.

H₀1.4: The personality characteristic of Agreeableness does not predict officer promotion groups in the U.S. military.

H_A1.4: The personality characteristic of Agreeableness does predict officer promotion groups in the U.S. military.

H₀1.5: The personality characteristic of Neuroticism does not predict officer promotion groups in the U.S. military.

H_A1.5: The personality characteristic of Neuroticism does predict officer promotion groups in the U.S. military.

RQ2: To what extent does race moderate the relationship between officer personality characteristics and promotion group (Junior officers and Senior officers)?

H₀2.1: Race does not moderate the relationship between the officer personality characteristic of Openness and promotion group.

H_A2.1: Race does moderate the relationship between the officer personality characteristic of Openness and promotion group.

H₀2.2: Race does not moderate the relationship between the officer personality characteristic of Conscientiousness and promotion group.

H_A2.2: Race does moderate the relationship between the officer personality characteristic of Conscientiousness and promotion group.

H₀2.3: Race does not moderate the relationship between the officer personality characteristic of Extraversion and promotion group.

H_A2.3: Race does moderate the relationship between the officer personality characteristic of Extraversion and promotion group.

H₀2.4: Race does not moderate the relationship between the officer personality characteristic of Agreeableness and promotion group.

H_A2.4: Race does moderate the relationship between the officer personality characteristic of Agreeableness and promotion group.

H₀2.5: Race does not moderate the relationship between the officer personality characteristic of Neuroticism and promotion group.

H_A2.5: Race does moderate the relationship between the officer personality characteristic of Neuroticism and promotion group.

This quantitative, cross-sectional research used binary logistic regression to answer the two research questions. Binary logistic regression is a statistical technique in regression analysis that predicts the relationship between independent variables and a binary dependent variable (Midi et al., 2010). The following are assumptions when using binary logistic regression: (a) the dependent variable is dichotomous, (b) an independent variable that is either categorical or continuous, (c) observations should be independent of each other, and the dependent variable should have mutually exclusive and exhaustive categories, (d) a linearity relationship between the independent variables and logit transformation of the dependent variable, (e) absence of multicollinearity, (f) no significant outliers, high leverage value, or highly influential points, and (g) there is adequate sample size of at least 15 participants (Laerd Statistics, 2023; Midi, 2010). Assumption testing reduced the likelihood of Type I and Type II error occurrences (Osborne & Waters, 2002). The results of the binary logistical analysis were interpreted using a .05 alpha level of significance (i.e., a 5% chance of rejecting the null hypothesis, if correct), an estimated odds ratio of 2.3 (i.e., 2.3 odds that a relationship does not exist between personality traits and promotion), and a 95% confidence level to measure the possibility of personality traits predicting promotion. Ranganathan et al. (2017) stated that binary logistic regression provides a predictive analysis when analyzing data to explain the relationship between one binary dependent variable and one or more continuous or categorical independent variables.

An acceptable limitation for this study was that the IPIP-NEO-60 is ordinal, given it does not have a defined 0. The IPIP-NEO-60 shares similar categorized scoring as the

NEO-FFI-3 with scores of high, average, and low per each personality domain (Maples-Keller et al., 2019). T scores reflect the following categories: High (56 and higher), average (45-55), and low (44 and lower). Data cleaning and screening was done prior to analysis, as mentioned above.

Threats to Validity

Internal Validity

In this study, there were a couple potential threats to internal validity. Although the internet is an efficient tool for data collection, it posed some difficulty in obtaining adequate participant samples and responses as well as technological issues (Granello & Wheaton, 2004). To address this issue, I ensured that the study link worked correctly and that participants were able to contact me or Qualtrics if they had any technical issues while participating. Historical events such as retirement from military service may influence how the participants feel and alter their personality characteristic dimension. To minimize that threat, retired officers who felt their personalities have altered since retirement were asked not to participate on the recruitment poster.

External Validity

One threat to external validity was selection bias since this study was limited to only Army and Navy officers not Marines, Air Force, Coast Guard, or Space Force officers. The Navy and Army consider the O5 rank as senior officers whereas an O4 in the Airforce, Marine Corps, Coast Guard, and Space Force becomes part of the senior officer corps. To minimize selection bias that may have presented due to recruiting Army

and Naval officers due to their senior officer corps rank structure, recruitment was made via social media targeting U.S. Army and Naval officers worldwide.

Ethical Procedures

The protection of participants and ensuring their privacy is an ethical requirement of the American Psychological Association (2017). Upon approval from Walden University's IRB, this study maintained and protected all Army and Naval officers' privacy. The officers were provided anonymity and confidentiality as part of their agreement to volunteer for the study. The participants were informed that they were allowed to leave the study at any time. The consent form provided an appropriate explanation of the research and an overview of the nature of the study via the online consent form but any questions were emailed to me via my email address on the consent form. No participant received any compensation for participating in the study, it was strictly volunteer-based. Participants were guaranteed that their data was used for solely research purposes, as stated in the consent form.

To ensure the confidentiality and protection of the data, all data is stored on a password-protected USB for a minimum of five years and held in a locked drawer that only I have access. At the end of five years, all data will be erased and permanently deleted from the USB. Any printed material was shredded in a cross-cut diamond shredder so ensure no information can be obtained.

Summary

This quantitative study examined the extent personality characteristics predict U.S. military promotions into the senior officer corps, while considering the moderating

role of race. The target population and sampling procedures were discussed as well as the instruments used to collect data from participants. The research questions and hypotheses were re-introduced. Chapter four presents the data analyses results as well as conclusions.

Chapter 4: Results

Introduction

The purpose of this nonexperimental quantitative study was to examine to what extent personality characteristics predicted the promotion of officers in two sample groups related to the senior officer corps of the U.S. military, while considering the moderating role of race. While previous research focused on individual military personality traits within the U.S. military, none studied officer promotions as related to personality traits and race. This study addressed this gap by providing information related to promotion and predictive personality traits while moderating between minorities and non-minorities. The FFM was used in this study to interpret the findings based on the two research questions. The research questions and hypotheses were as follows:

RQ1: To what extent do personality characteristics, as measured by the IPIP-NEO-60, predict the officer promotion groups in the U.S. military?

H₀1.1: The personality characteristic of Openness does not predict officer promotion groups in the U.S. military.

H_A1.1: The personality characteristic of Openness does predict officer promotion groups in the U.S. military.

H₀1.2: The personality characteristic of Conscientiousness does not predict officer promotion groups in the U.S. military.

H_A1.2: The personality characteristic of Conscientiousness does predict officer promotion groups in the U.S. military.

H₀1.3: The personality characteristic of Extraversion does not predict officer promotion groups in the U.S. military.

H_A1.3: The personality characteristic of Extraversion does predict officer promotion groups in the U.S. military.

H₀1.4: The personality characteristic of Agreeableness does not predict officer promotion groups in the U.S. military.

H_A1.4: The personality characteristic of Agreeableness does predict officer promotion groups in the U.S. military.

H₀1.5: The personality characteristic of Neuroticism does not predict officer promotion groups in the U.S. military.

H_A1.5: The personality characteristic of Neuroticism does predict officer promotion groups in the U.S. military.

RQ2: To what extent does race moderate the relationship between officer personality characteristics and promotion group (Junior officers and Senior officers)?

H₀2.1: Race does not moderate the relationship between the officer personality characteristic of Openness and promotion group.

H_A2.1: Race does moderate the relationship between the officer personality characteristic of Openness and promotion group.

H₀2.2: Race does not moderate the relationship between the officer personality characteristic of Conscientiousness and promotion group.

H_A2.2: Race does moderate the relationship between the officer personality characteristic of Conscientiousness and promotion group.

H₀2.3: Race does not moderate the relationship between the officer personality characteristic of Extraversion and promotion group.

H_A2.3: Race does moderate the relationship between the officer personality characteristic of Extraversion and promotion group.

H₀2.4: Race does not moderate the relationship between the officer personality characteristic of Agreeableness and promotion group.

H_A2.4: Race does moderate the relationship between the officer personality characteristic of Agreeableness and promotion group.

H₀2.5: Race does not moderate the relationship between the officer personality characteristic of Neuroticism and promotion group.

H_A2.5: Race does moderate the relationship between the officer personality characteristic of Neuroticism and promotion group.

This chapter addresses data collection and results and includes a summary of the research findings.

Data Collection

On September 12, 2023, the IRB granted approval (09-12-23-0549415) for this study. The study invitation (Appendix E) was posted to social media sites starting October 2, 2023 and was reposted until the sample size of 237 was achieved. As stated in Chapter 3, the online platform Qualtrics housed the survey. The survey was open for data collection from October 2 to December 31, 2023. Participants were encouraged to share the survey invitation with those fitting the survey requirements. On December 31, 2023, the sample size was achieved. During the nearly 4-month collection period, 331 U.S.

military individuals participated. Of the 331 participants, 92 (28%) participants were excluded due to exclusionary criteria. I began to clean the data and noted that all 239 participants answered all personality questions but three opted to not indicate their gender, and four participants selected “other” as their service designator. Demographic descriptives ranged from 235–239 participants, but the research question analyses reflect 239 participants.

According to the DoD (2023), there are approximately 27,052 O4s in the Army and Navy combined; there are approximately 23,310 O5s–O10s in the Army and Navy combined. According to Faul (2007), G* Power estimated 237 participants as the needed sample size for the data to be considered eligible to make a generalization. The information gathered from this research can be used to analyze personality traits amongst military officer promotions, whilst raising additional questions to further examine.

Results

Sample Demographics

Table 2 contains the descriptive information statistics for the sample participants ($n = 239$) in the study. The demographics presented are based on the 239-participant data deemed viable for this study. Of the 239 participants, all (100%) indicated that they were active-duty, separated, or retired U.S. Army or U.S. Navy officers between the paygrades of O4 and O9. Officers with the O10 paygrade ($n = 10$ Navy, $n = 13$ Army) were not participants for this study. The majority of participants were male (57.7%), between the ages of 46 and 50 (25.6%), and served 15–20 years (35.1%) in the military. Overall, the majority of participants worked for the U.S. Navy (72.4%), with the highest percentage

of officers serving as restricted or unrestricted line officers (51%). The majority of officers reported their highest level of education as a master's degree (75.7%). Finally, the majority of officers reported their race as Caucasian (84.1%).

Sample Demographics Compared to U.S. Navy and Army Officers

The DoD (2023) provides an annual demographics report specifying demographics overall and by military service. The following data were pulled from the 2022 Demographics Report (DoD, 2023), and I combined Army and Navy data to compare with this study's data.

Age

The majority of officers who participated in this study were between 46 and 50 years of age (25.5%), followed by 41–45 (21.3%). According to the 2022 Demographic Report, the majority of officers in the O4–O10 paygrades were ages 41 and older (24% Army, 25.7% Navy; DoD, 2023). It appears that the majority age range of participants in this study reflects the majority age range of the Army and Navy (DoD, 2023).

Gender

In the current study, the majority of participants identified as male (57.7), followed by female (41%) and other (1.3%). According to the 2022 Demographic Report, the majority of officers identified as male (80%), while females accounted for 20% (DoD, 2023). It appears that this study had a relatively lower percentage of males to females compared to the DoD (2023) report.

Education

The majority of participants in this study reported their highest level of education as a master's degree (75.7%), followed by doctorate degree (13%). The 2022 Demographic Report does not separate officers from enlisted concerning percentages of highest education level, but a bachelor's degree was the most achieved (17.6% Army, 12.6% Navy). It appears that this study had different education achievements compared to the DoD (2023) report.

Race

In the current study, the majority of participants identified as Caucasian (84.1%), followed by non-Caucasian (15.9%). According to the 2022 Demographic Report, the majority of officers (O4–O10 paygrades) identified as Caucasian (80% Army, 85% Navy). While this study had a higher percentage of officers identifying as Caucasian, the sample was somewhat close to the DoD (2023) demographic.

Table 2*Demographic Variable Frequencies*

Variable	Category	Number	Percent
Age	30–35	10	4.2%
	36–40	23	9.6%
	41–45	51	21.3%
	46–50	61	25.5%
	51–55	30	12.6%
	56–60	18	7.5%
	61–65	20	8.4%
	65 or older	26	10.9%
Gender	Male	138	57.7%
	Female	98	41.0%
	Prefer not to say (excluded from analysis)	3	1.3%
Highest education level	Bachelor's degree	18	7.5%
	Master's degree	181	75.7%
	Professional degree	9	3.8%
	Doctorate degree	31	13.0%
Military service	U.S. Army	66	27.6%
	U.S. Navy	173	72.4%
Designator	Restricted Line Officer	61	25.5%
	Unrestricted Line Officer	61	25.5%
	Staff Corps Officer	47	19.7%
	Limited Duty Officer	2	0.8%
	Combat Arms Branch	15	6.3%
	Combat Support Branch	21	8.8%
	Combat Service Support Branch	22	9.2%
	Special Branch	6	2.5
Other	4	1.7	
Years in service	9–14 years	1	0.4%
	15–20 years	84	35.1%
	21–25 years	74	31.0%
	26–30 years	52	21.8%
	31–35 years	23	9.6%
	36 or more years	5	2.1%

Variable	Category	Number	Percent
Paygrade	O4	69	28.9%
	O5	75	31.4%
	O6	80	33.5%
	O7	2	0.8%
	O8	6	2.5%
	O9	7	2.9%
Race	Caucasian	201	84.1%
	Non-Caucasian	38	15.9%

Statistical Assumptions

As stated in Chapter 3, binary logistic regression has seven assumptions: (a) the dependent variable is dichotomous; (b) an independent variable that is either categorical or continuous; (c) observations should be independent of each other, and the dependent variable should have mutually exclusive and exhaustive categories; (d) a linearity relationship between the independent variables and logit transformation of the dependent variable; (e) absence of multicollinearity; (f) no significant outliers, high leverage value, or highly influential points; and (g) adequate sample size of at least 15 participants (Laerd Statistics, 2023; Midi, 2010). All assumptions were met; however, (d) the logit transformation of DV and IVs made the assumption N/A, (e) was not applicable because the IVs were not continuous but were highly correlated to each other, and (f) to establish multicollinearity, a cross-tabulation chi-square showed a significant relationship with extraversion, but when added to the model with agreeableness, extraversion did not result as a statistically significant predictor. Due to the perceived high-level outlier ($n = 1$) of the extraversion trait, I conducted a binary cross-tabulation to combine the reported high and average responses ($n = 82$), resulting in .02 significance.

Results

Before conducting binary logistic regressions, simple descriptive statistics were analyzed for each paygrade group (Table 3) and each promotion group's personality trait (Table 4). Table 3 reflects participants categorized into two groups: O4s not selected for promotion to O5 and O5s–O10s. The majority of participants were in the O5–O9 group (71.1%). Table 4 reflects the paygrade group means, which were notably similar to one another across the FFM traits.

Table 3

Frequency Distribution of Study Participants' Paygrade

Promotion Group			
	O4	69	28.9%
	O5-O9	170	71.1%

Table 4

Descriptive Statistics of Personality Traits

Promotion groups	O4s	O5–O9s
	<i>M (SD)</i>	<i>M (SD)</i>
Openness	42.7 (6.1)	42.7 (6.4)
Conscientiousness	50.9 (6.2)	52.3 (5.3)
Extraversion	41.7 (5.5)	44.1 (4.8)
Agreeableness	47.9 (5.8)	49.5 (5.0)
Neuroticism	34.9 (6.4)	32.5 (5.5)

The goal of this research was to determine if McCrae and Costa's (1984) FFM personality traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism (or a combination) predicted officer paygrade. Because binary logistic

regression (BLR) predicts the probability of a dichotomous DV using IVs that are either continuous or categorical, BLR can predict the probability of this study's dichotomous promotion group and several Likert-scaled personality traits. The following research question was posed: RQ1: To what extent do personality characteristics, as measured by the IPIP-NEO-60, predict the officer promotion groups in the United States military? The outcome variable promotion group was coded 0 = O4s that failed to select, and 1 = O5-O9s selected to promote. Each predictor variable of personality was coded 1 = low, 2 = average, and 3 = high.

This study used a .05 alpha level of significance, 2.3 estimated odds ratio to double the odds of the outcome, and a 95% confidence level, which Cohen (1988) explained can be statistically significant. Because there are multiple IVs, the odds ratio increases, which was reflected in the 2.3 estimated odds ratio (Faul et al., 2007; Norton et al., 2018). The omnibus test indicated only one item of the FFM as statistically a significant predictor, $X^2(10) = 21.3, p = .019$ (Table 5).

Agreeableness was the only trait showing significant correlations between personality traits and paygrade group according to the odds ratio. The odds ratio indicated that officers with average levels of agreeableness were 2.1 times more likely to promote into the senior officer corps, and officers with a high level of agreeableness were 11.6 times more likely to promote into the senior officer corps. The strength of the association between agreeableness and promotion group was weak, using Nagelkerke $R^2 = .122$ (Table 6), meaning the measurement of goodness of fit was low and the model accounted

for 12% of the variability in the dependent variable. The model also correctly classified 71.5% of cases.

Table 5

Omnibus Tests of Model Coefficients

		Chi-square	<i>df</i>	<i>p</i>
Step 1	Step	21.277	10	.019
	Block	21.277	10	.019
	Model	21.277	10	.019

Table 6

Model Summary

Step	-2 log likelihood	Cox & Snell <i>R</i> square	Nagelkerke <i>R</i> square
1	265.995 ^a	.085	.122

^a Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Each independent variable was coded 1= low, 2 = average, and 3 = high with the low being assigned the constant in each model. The null hypotheses of openness, conscientiousness, extraversion, neuroticism failed to be rejected as they were found to be nonsignificant predictors of promotion, meaning there was no effect by the four IVs. Each of the four traits were above the .05 significance level. The openness trait was a nonsignificant predictor of promotion (i.e., average [$B = -.324, SE = .326, p = .319$], high [$B = .519, SE = 1.32, p = .695$]). Conscientiousness (i.e., average [$B = .575, SE = .482, p = .332$], high [$B = .341, SE = .538, p = .526$]), extraversion (i.e., average [$B = .544, SE = .326, p = .233$], high [$B = .19.879, SE = .40192.969, p = 1.00$]), and neuroticism (i.e., average [$B = -1.22, SE = .786, p = .121$], high [$B = 19.195, SE = 26998.10, p = .999$])

were also not found to significantly predict promotion. However, the binary logistic regression analysis indicated agreeableness as a statically significant predictor of promotion. The Omnibus test regarding the significance of agreeableness was $\chi^2(2) = 10.5, p = .005$. The null hypothesis of agreeableness was rejected as it was found to be a significant predictor of promotion, meaning there was an effect of that single IV. Table 7 summarized the results of the binary logistic regression.

Table 7

Variables in the Equation

	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp(B)</i>
Step 1 ^a						
Neuroticism cat			2.401	2	.301	
Neuroticism cat(1)	-1.217	.786	2.401	1	.121	.296
Neuroticism cat(2)	19.195	26998.104	.000	1	.999	216916375.965
Extraversion cat			2.786	2	.248	
Extraversion cat(1)	.544	.326	2.786	1	.095	1.723
Extraversion cat(2)	19.879	40192.969	.000	1	1.000	429948245.489
Conscientiousness cat			1.606	2	.448	
Conscientiousness cat(1)	.575	.482	1.421	1	.233	1.777
Conscientiousness category(2)	.341	.538	.403	1	.526	1.407
Openness cat			1.249	2	.535	
Openness cat(1)	-.324	.326	.991	1	.319	.723
Openness cat(2)	.519	1.323	.154	1	.695	1.680
Agreeableness cat			7.000	2	.030	
Agreeableness cat(1)	.742	.368	4.057	1	.044	2.100
Agreeableness cat(2)	2.453	1.108	4.904	1	.027	11.618
Constant	-.279	.510	.298	1	.585	.757

^a Variable(s) entered on step 1: Neuroticism category, Extraversion category, Conscientiousness category, Openness cat, Agreeableness category.

On further examination, an additional binary logistic regression analyzed race as a binary moderator variable to answer RQ2: To what extent does race moderate the relationship between officer personality characteristics and promotion group (Junior officers and Senior officers)? Similar to RQ1, the outcome variable promotion group was coded 1 = O4s that failed to select, and 2 = O5-O9s selected to promote. Each predictor variable of personality was coded 1 = low, 2 = average, and 3 = high. The moderator variable of race was coded 1 = Caucasian ($n = 201$) and 2 = non-Caucasian ($n = 38$). The null hypotheses of RQ2 failed to be rejected. The moderating effect of Race on the promotion group and agreeableness trait relationship was nonsignificant ($B = -.076$, $SE = .445$, $p = .864$) as reflected in Table 8. Race did not impact the model according to Nagelkerke ($R^2 = .123$) meaning the model accounted for 12% of the variability in the dependent variable, and the measurement of goodness of fit was low (Table 9); the model correctly classified 72% of cases. A dummy variable that combined agreeableness and race (agreecat-x_race) was used to find the moderator effect. Since agreeableness was the only statistically significant personality trait that positively predicted promotion, that was the trait focused on for the moderator effect.

Table 8*Variables in the Equation*

		<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp (B)</i>
Step 1	Please indicate	.103	.438	.055	1	.814	1.108
^a	your race:(1)						
	Neuroticism			2.373	2	.305	
	category						
	Neuroticism	-1.213	.788	2.373	1	.123	.297
	category(1)						
	Neuroticism	19.225	26955.8	.000	1	.999	223436059.13
	category(2)		1				
	Extraversion			2.874	2	.238	
	category						
	Extraversion	.556	.328	2.874	1	.090	1.744
	category(1)						
	Extraversion	19.925	40192.9	.000	1	1.000	449887100.12
	category(2)		7				
	Openness cat			1.144	2	.564	
	Openness cat(1)	-.310	.328	.892	1	.345	.733
	Openness cat(2)	.523	1.331	.154	1	.694	1.687
	Conscientiousnes			1.667	2	.435	
	s category						
	Conscientiousnes	.582	.483	1.453	1	.228	1.790
	s category(1)						
	Conscientiousnes	.332	.539	.380	1	.537	1.394
	s category(2)						
	Agreeableness			6.928	2	.031	
	category						
	Agreeableness	.794	.441	3.231	1	.072	2.21
	category(1)						
	Agreeableness	2.453	1.124	4.764	1	.029	11.612
	category(2)						
	agreeecat_x_race			.029	1	.864	
	agreeecat_x_race(-.076	.445	.029	1	.864	.927
	1)						
	Constant	-.294	.539	.297	1	.586	.745

^a Variable(s) entered on step 1: agreeecat_x_race.

Table 9*Model Summary*

Step	-2 log likelihood	Cox & Snell <i>R</i> square	Nagelkerke <i>R</i> square
1	265.861 ^a	.086	.123

^a Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Summary

This study used binary logistic regression to determine whether personality traits predict promotion of Army and Naval officers into the senior officer corps. Having met the sample size requirement, these results may be generalized to the U.S. military officer population. Overall, personality traits were not statistically significant as predictors of promotion except for the agreeableness trait. The moderator variable of Race was not statistically significant as it did not affect the model. Chapter five provides a discussion of the research implications, as well as the study's limitations and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine to what extent personality characteristics predicted the promotion of officers in two sample groups related to the senior officer corps of the U.S. military, while considering the moderating role of race. The cross-sectional design allowed this study to gather information on what was occurring in the military population while examining various characteristics simultaneously. The design used the survey method to obtain personality and demographic information. Through this study, I aimed to fill the gap in research concerning the relationship between military officer personality characteristics and promotion to the senior officer corps while considering the moderating role of race.

A total of 239 Army and Naval officers participated in the study's survey regarding their demographic information and personality traits. Binary logistic regression was used to analyze officer personality traits, rank, and the moderating effect of race. Overall, the findings of this study denote the trait of agreeableness as a predictor of promotion into the senior officer corps of the Army and Naval services. Race was not found to have an effect on the model. Because the sample size was met, these results may be generalized to inform as the information helped to fill a gap in the literature.

Although not statistically significant, there were notable findings pertaining to the personality traits and promotion groups. According to crosstabulations analyses, the model reflects that both promotion groups (O4–O9 Army and Naval officers) exhibit a low profile of neuroticism, average agreeableness, low extraversion, low openness, and

average conscientiousness. However, the average is too small to be statistically significant because only 6% can be explained in the model summary ($R^2 = .06$). The 6% effect size is small for promotions being explained by the officers' personality traits.

Interpretation of the Findings

This study was based on past research regarding military officers, as well as research on military promotions, military promotion traits, and diversity. The outcome of this study was that the sole trait of agreeableness was found to be a statistically significant predictor of promotion into the senior officer corps, but race did not have a moderating effect. These research findings confirm and contrast with previous military findings regarding personality traits, promotion barriers, and diversity issues.

Allik and McCrae (2002) elucidated that the FFM traits provide a cross-cultural foundation for understanding human personality when compared across numerous cultures. The military is one such culture that provides a foundation for understanding service members' personality by assessing personality for specialty selections, promotions, officer candidates, and unit selections (Bech et al., 2021; Bobdey et al., 2020; Huijzer et al., 2022; Klee & Renner, 2015; Stark et al., 2014).

The Naval Special Operations Command based its average SEAL personality profile on Braun et al. (1994)'s results. Braun et al. (1994) indicated that, when compared with civilians, SEALs exhibited lower neuroticism and agreeableness scores, average to lower scores of openness, and higher levels of conscientiousness and extraversion. Gardner et al. (2012) indicated that high conscientiousness and low openness to experience persons fit better in a hierarchal system such as the military. Applying these

profiles to the IPIP-NEO-60 summary indicated that Army and Naval officers similarly exhibited low neuroticism and low openness but differed with average agreeableness and conscientiousness, and low extraversion. These results may differ due to the personality types and mindsets needed in special operations given their unique skillsets and missions compared to traditional, nonspecial operators in the military. Special operators with high conscientiousness and extraversion present higher levels of self-discipline, dutifulness, order, assertiveness, and excitement seeking than the traditional Army/Naval officer (Braun et al., 1944; McCrae & Costa, 2010).

A Norwegian study surmised that Norwegian Special Operators Force (NSOF) members who displayed higher extraversion and lower openness were selected for higher leadership positions (Skuglund et al, 2021). In contrast, the agreeableness trait in the current study was statistically significant in predicting a higher leadership position (i.e., senior officer corps). Due to the demographic specialty choices on the questionnaire, this study could not examine participants who were in the special operations community for comparison. However, looking at traditional Army/Navy officer specialties, average to higher levels of agreeableness includes above-average trustworthiness, straightforwardness, altruism, and compliance of orders (McCrae & Costa, 2010). Given the difference in traits of special operators versus traditional officers, the duties of special operators may require different levels of personality traits to create a mindset that excels in that community.

Gardner (2012) and Schmidt (2014) asserted personality traits as predictors of organizational fit and performance with high conscientiousness and lower agreeableness.

When applying those studies to the present study, neither high conscientiousness nor low agreeableness appeared to fundamentally affect personality traits predicting promotion.

The findings of this research indicated a statistically significant personality trait predicting promotion in military officers. The design of the IPIP-NEO-60 described where an individual scores on the FFM (Maples-Keller et al., 2019), and by using the IPIP-NEO-60, this study identified not only agreeableness as statistically significant in promotions, but also a pattern of personality in the officers regardless of promotion group. The pattern of low neuroticism (i.e., calm and not irritated easily), low openness (i.e., strong moral compass and down to earth), and low extraversion (i.e., reserved, do not need social stimulation to thrive) with average agreeableness (i.e., problem solvers) and conscientiousness (i.e., hard workers with flexibility) emerged, but pointedly a pattern of officer traits not statistically significant in predicting promotion. McCrae and Costa (2010) suggested that patterns of personality may aid in identifying individuals with predisposed behaviors.

The Military Leadership Diversity Commission (2010) investigated fairness in promotions and command opportunities regarding racial diversity. Their findings that the lack of diversity in promotions did not equate to racial bias in U.S. military promotions (MLDC, 2010) was reflected in this study as race was not a moderator to personality and promotion. While the findings of this research confirm and disconfirm previous literature on the subject, this study does extend the literature on personality traits and promotion by examining the relationship between personality traits, promotion, and race.

Limitations of the Study

Research studies tend to include limitations that influence the findings and validity of the research. When interpreting the data, it is important to take these limitations into account and acknowledge the limitations so the audience understands the full picture of the research. The first limitation was the method of recruitment for participants. Because active-duty service members fall under a protected class, my recruitment was limited to social media and word of mouth. Having to rely upon social media and word of mouth limited participants to those who frequented social media or had associations that shared the study invitation. Previous research indicated that frequent social media correlated with higher levels of extraversion compared to nonsocial media participants, and those on social media exhibited higher levels of agreeableness, which translated into a higher willingness to share the study (Wang, 2013). It is unclear whether Wang's (2013) findings influenced the participation of this study.

The second limitation was focusing on solely Army and Naval officers. While the findings of this study may be generalized, it is limited to the U.S. Army and Navy and not overall DoD. Having a full sampling of DoD services lends to a bigger, full picture of the relationship between personality traits, promotion, and race in military officers.

The third limitation involves the design choice and my decision to solely focus on promotion groups, personality, and race. While demographic information was gathered, it was only for descriptive purposes and not to add additional findings of influence. Binary logistic regression research can determine predictability but not causality. It is unknown whether any of the descriptive data influenced the participants' FFM scores.

A fourth limitation was the sample size. Although this study exceeded the overall sample size requirement ($n = 239$), there was a disproportioned participant number in each of the two promotion groups ($n = 69$, $n = 170$). Having a more proportioned number of participants in each group would aid in the generalization. In addition, the autumn timing of the survey was inconvenient because O4–O10 promotion board results release in the spring. If the survey were open during the spring, more O4s would know if they selected for promotion or not, therefore increasing the group size.

The final limitation was controlling for my bias as a military spouse to a Naval officer in the senior officer corps. I attempted to address my bias as I interpreted and wrote the research results as a neutral observer.

Recommendations

I examined the predictability personality traits had on promotion into the senior officer corps. These data indicate that this study can be used by military officers as a means to examine the relationship between their personality traits and possible promotions. Because a statistically significant relationship was found between the FFM (i.e., agreeableness) and promotion, perhaps a larger sample size including all services of the DoD can find more predictability. Given the number of personality assessments, another personality inventory may be considered.

The goal of this research was to examine whether personality traits predict promotion while moderating for race. While a plethora of research exists on the military and personality, there is still a gap pertaining to its interaction with military promotions and diversity. Previous research indicated the MBTI, FFM, or Big Five personality traits,

each with differing theoretical foundations that may vary in results based on the theory (Boe & Bang, 2017). Other research has delved into military promotions and diversity, finding correlations between promotion and a lack of diversity (Baldwin, 2000; Baldwin & Rothwell, 1993; Barroso, 2020; Bech et al., 2021). To verify the results indicated in this study, it is recommended that future research incorporate diversity of race, gender, and military specialty when examining personality traits and promotion. These diverse variables may be a contributing factor in whether personality traits predict promotions in the U.S. military. Qualitative research may identify barriers to promotion experienced by service members based on their race, gender, or specialty for more insight into promotion rates. Additionally, a mixed methods study could be used to examine personality traits and promotion while exploring the experiences of those who overcame the previously mentioned barriers.

Future research involving military officer personality traits and promotions should include all the demographics included in this study (i.e., race, age, years in service, gender, specialty, education, etc.). Bech et al. (2021) opined that service members' personalities change as they go through training and experience combat, so it would be useful to have the unchanging demographics when examining the correlation between personality and promotion.

Implications for Social Change

The intent of this study was to find whether personality traits predict promotion in the military while moderating for race, and if results were statistically significant, the U.S. military might be able to identify ways of identifying officers predisposed to the

senior officer corps. The study analyses did find that the trait of agreeableness predicted promotion, but from an organizational perspective, the FFM alone is not sufficient in identifying officers for promotion into the senior officer corps. However, the FFM considers personality as developmental in nature, and officers may develop their personality trait of agreeableness to reflect the findings.

The findings from this study could provide positive social change by informing military and federal leaders of the role personality characteristics play in leadership positions within the American military. It may also inform those who design defense-gear development programs, retention programs, diversity programs, and military leadership programs. Personality mentoring may also be implemented as part of officer development.

As previously indicated, research into personality traits and military promotions is limited. This research aids the ongoing research into personality as well as research regarding diversity in the military. By understanding the relationship between personality and promotion, military and government leaders may be better equipped to identify junior officers who have the potential for the senior officer corps. As a result of this research, future hierarchal organizational researchers may use the FFM personality characteristics and promotion group as a foundation. This research may also be incorporated into studies using different personality assessments when examining personality and promotion while moderating for a demographic item (i.e., gender, education level). However, more research needs to be conducted to assist minority officers to reduce the disparity in representation in the senior ranks.

Conclusion

This study indicated that the FFM trait of agreeableness was statistically significant in predicting promotion into the senior officer corps. Although not significant, the pattern of low neuroticism, openness, and extraversion with average agreeableness and conscientiousness emerged in the data of officers surveyed. The IPIP-NEO-60 should be used but perhaps not exclusively as a predictor in identifying promotion rates of military officers. This research contributed to the existing body of research by examining the predictability of personality in lieu of promotion while moderating for race. The social issue concerning the lack of diversity in the senior officer corps continues to be concerning amidst DoD directives ensuing equality in promotions. The findings of this research aid in understanding personality and promotion, but further research is needed to understand the role of personality in military promotions.

References

- Air Force Cadet Officer Mentor Association. (2022). *The Air Force Cadet Officer Mentor Association: History*.
https://afcomainc.clubexpress.com/content.aspx?page_id=22&club_id=212595&module_id=167955
- Albrecht, M. J. (1976). *A discussion of some applications of human capital theory to military manpower issues* (Report No. P-5727). The RAND Corporation.
<https://apps.dtic.mil/sti/pdfs/ADA040888.pdf>
- Albright, K. (2022). *We don't need no education: Effects of degree masking on Air Force promotion outcomes* [Master's thesis, Naval Postgraduate School]. NPS Dudley Knox Library. <https://apps.dtic.mil/sti/pdfs/AD1173240.pdf>
- Allik, J., & McCrae, R. R. (2002). A Five-Factor theory perspective. In R. R. McCrae & J. Allik (Eds.), *The Five-Factor model of personality across cultures* (pp. 303–322). Kluwer Academic/Plenum Publishers. https://doi.org/10.1007/978-1-4615-0763-5_15
- American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. <https://www.apa.org/ethics/code>
- Aponte, M., Garin, T., Glasgow, D., Lee, T., Newsome, E., Thomas, E., & Ward, B. (2017). *Minority veteran report: Military service history and VA benefit utilization statistics*. National Center for Veterans Analysis and Statistics.
https://www.va.gov/vetdata/docs/SpecialReports/Minority_Veterans_Report.pdf
- Asch, B. J., Miller, T., & Malchiodi, A. (2012). *A new look at gender and minority*

differences in officer career progression in the military. The RAND Corporation.

https://www.rand.org/pubs/technical_reports/TR1159.html

Atwater, L. A., & Yammarino, F. J. (1993). Personal attributes as predictors of superiors' and subordinates' perceptions of military academy leadership. *Human Relations*, 46, 645–669.

Bacolod, M., & Chaudhary, L. (2018). Distance to promotion: Evidence from military graduate education. *Contemporary Economic Policy*, 36(4), 667–677.

<https://doi.org/10.1111/coep.12275>

Baldor, L. C. (2022). *Army cuts expected force size amid unprecedented shortfall of recruits*. PBS. <https://www.pbs.org/newshour/politics/army-cuts-expected-force-size-amid-unprecedented-shortfall-of-recruits>

Baldwin, J. N. (2000). Early promotions of women and minorities in the United States Air Force. *Journal of Political & Military Sociology*, 28(1), 109–130.

Baldwin, J. N., & Rothwell, B. A. (1993). Glass ceilings in the military. *Review of Public Personnel Administration*, 13(4), 5–26.

<https://doi.org/10.1177/0734371x9301300402>

Banks, L. M. (2006). The history of special operations psychological selection. In A. D. Mangelsdorff (Ed.), *Psychology in the service of national security* (pp. 83–95). American Psychological Association.

Barańczuk, U. (2019). The Five Factor model of personality and social support: A meta-analysis. *Journal of Research in Personality*, 81, 38–46.

<https://doi.org/10.1016/j.jrp.2019.05.002>

- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*(1), 1–26.
<https://doi.org/10.1111/j.1744-6570.1991.tb00688.x>
- Barroso, A. (2020). *The changing profile of the U.S. military: Smaller in size, more diverse, more women in leadership*. Pew Research Center.
<https://www.pewresearch.org/fact-tank/2019/09/10/the-changing-profile-of-the-u-s-military/>
- Bech, S. C., Dammeyer, J., & Liu, J. (2021). Changes in personality traits among candidates for Special Operations Forces. *Military Psychology*, *33*(3), 197–204.
<https://doi.org/10.1080/08995605.2021.1902178>
- Becker, H. S. (1960). Notes on the concept of commitment. *American Journal of Sociology*, *66*, 32–40. <https://doi.org/10.1086/222820>
- Becker, H. S. (1982). *Art worlds*. University of California Press.
- Belanger, H. G. (2020). Introduction to a special issue on military neuropsychology: Serving those who serve. *The Clinical Neuropsychologist*, *34*(6), 1065–1069.
<https://doi.org/10.1080/13854046.2020.1786605>
- Bisno, A. (2019). *Birth of the U.S. Navy*. Naval History and Heritage Command.
<https://www.history.navy.mil/browse-by-topic/heritage/origins-of-the-navy/birth-of-the-us-navy.html>
- Biswas-Diener, R., Kashdan, T. B., & Minhas, G. (2011). A dynamic approach to psychological strength development and intervention. *The Journal of Positive Psychology*, *6*(2), 106–118. <https://doi.org/10.1080/17439760.2010.545429>

- Bobdey, S., Narayan, S., Ilankumaran, M., & Pawar, A. A. (2021). Association of personality traits with performance in military training. *Medical Journal Armed Forces India*, 77(4), 431–436. <https://doi.org/10.1016/j.mjafi.2020.12.022>
- Boe, O., & Bang, H. (2017). The big 12: The most important character strengths for military officers. *Athens Journal of Social Sciences*, 4(2), 161–174. <https://doi.org/10.30958/ajss.4-2-4>
- Bowler, M. C., Bowler, J. L., & Cope, J. G. (2012). Further evidence of the impact of cognitive complexity on the five-factor model. *Social Behavior & Personality: An International Journal*, 40, 1083-1097. Doi:10.2224/sbp.2012.40.7.1083
- Brown, T. A., Ratwani, K. L., Key-Roberts, M. J., Simmons, M. J., Toumbeva, T. H., & Nishii, L. H. (2020). Contextualizing inclusion: Developing a framework and measure for a military context. *Military Psychology*, 32(4), 313–328. <https://doi.org/10.1080/08995605.2020.1754147>
- Braun, D. E., Prusaczyk, W. K., Goforth, H. W., & Pratt, N. C. (1994). Personality profiles of U.S. Navy Sea-air-land (SEAL) personnel. *Naval Health Research Center -PsycEXTRA Dataset*, (8). <https://doi.org/10.1037/e669222012-001>
- Bushatz, A. (2022). *Military ranks: Everything you need to know*. Military.com. <https://www.military.com/join-military/military-ranks-everything-you-need-know.html>
- Butcher, J. N., Jeffrey, T., Cayton, T. G., Colligan, S., DeVore, J. R., & Minegawa, R. (1990). A study of active-duty military personnel with the MMPI-2. *Military Psychology*, 2(1), 47–61. https://doi.org/10.1207/s15327876mp0201_4

- Campbell, J. S., Ruiz, M. A., & L. Moore, J. (2010). Five-factor model facet characteristics of non-aeronautically adaptable military aviators. *Aviation, Space, and Environmental Medicine*, 81(9), 864–868.
<https://doi.org/10.3357/asem.2761.2010>
- Clark, S. M., Hack-Polay, D., & Bal, P. M. (2020). Social mobility and promotion of officers to senior ranks in the Royal Navy: Meritocracy or class ceiling? *Armed Forces & Society*, 48(1), 92–114. <https://doi.org/10.1177/0095327x20905118>
- Cohen, R. (2021, September 22). *The promotion outlook: What lies ahead for air force officers and enlisted airmen*. Air Force Times.
<https://www.airforcetimes.com/news/your-air-force/2021/09/21/the-promotion-outlook-what-lies-ahead-for-air-force-officers-and-enlisted-airmen/>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohrs JC, Kampfe-Hargrave N, Riemann R. (2012). Individual differences in ideological attitudes and prejudice: Evidence from peer-report data. *Journal of Personality and Social Psychology*. 103(2):343–61. <https://doi.org/10.1037/a0028706>
- Collins, J. M., & Gleaves, D. H. (1998). Race, job applicants, and the Five-Factor Model of personality: Implications for Black Psychology, Industrial/Organizational Psychology, and the Five-Factor Theory. *Journal of Applied Psychology*, 83(4), 531–544. <https://doi.org/10.1037/0021-9010.83.4.531>
- Conklin, N. (2018). Air Mobility Liaison Officer Promotions: Perception and Reality. *Air & Space Power Journal*, 32(1), 34–51.

- Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, 6(4), 343–359. <https://doi.org/10.1521/pedi.1992.6.4.343>
- Council on Foreign Relations (2020). *Demographics of the U.S. Military*. Council on Foreign Relations. <https://www.cfr.org/backgroundunder/demographics-us-military>.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications, Inc.
- Dalton, J., Aubuchon, I., Tom, A., Pederson, S., & McFarland (1993). MBTI profiles of Vietnam veterans with post-traumatic stress disorder. *Journal of Psychological Type*, 26, 3-8.
- Davis, B. H. (2018). *Perceptions of barriers to leadership appointment and promotion of African American female commissioned officers in the United States military* [Doctorate dissertation, University of San Francisco]. ProQuest Dissertations & Theses Global. <http://repository.usfca.edu/diss/459>
- Deibler, K. A. (2012). *The Relative Influence of Military Rank versus Personality on Perceived Autonomy for United States Air Force Pararescuemen* (dissertation). Walden Dissertations and Doctoral Studies, Minneapolis, MN. <https://scholarworks.waldenu.edu/dissertations/1034>
- Department of Defense Board on Diversity and Inclusion (2020). *Recommendations to improve racial and ethnic diversity and inclusion in the U.S. military*. <https://media.defense.gov/2020/Dec/18/2002554852/-1/-1/0/DOD-DIVERSITY-AND-INCLUSION-FINAL-BOARD-REPORT.PDF>

- Department of Defense (2022). Officer Insignia. <https://www.defense.gov/Our-Story/Insignias/#officer-insignia>
- Drasgow, F. (2020). Prediction of performance by non-cognitive traits. *Military Psychology*, 32(1), 127–134. <https://doi-org/10.1080/08995605.2019.1652479>
- Duriez, B., & Soenens, B. (2006). Personality, identity styles and authoritarianism: an integrative study among late adolescents. *European Journal of Personality*, 20(5), 397–417. <https://doi.org/10.1002/per.589>
- Ekehammar B, Akrami N, Gylje M, Zakrisson I. (2004). What matters most to prejudice: Big Five personality, Social Dominance Orientation, or Right-Wing Authoritarianism? *European Journal of Personality*. 18(6):463–82.
- Esper, M. (2020, June 19). *Immediate actions to address diversity, inclusion, and equal opportunity in the military services* [Memorandum]. Department of Defense. <https://media.defense.gov/2020/Jun/22/2002319394/-1/-1/1/ACTIONS-FOR-IMPROVING-DIVERSITY-AND-INCLUSION-IN-THE-DOD.PDF>
- Executive Order 9981. (2018). <https://www.trumanlibrary.org/9981a.htm>.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, Behavioral, and Biomedical Sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/bf03193146>
- Foldes, H. J., Duehr, E. E., & Ones, D. S. (2008). Group differences in personality: Meta-analyses comparing five U.S. racial groups. *Personnel Psychology*, 61(3), 579–

616. <https://doi.org/10.1111/j.1744-6570.2008.00123.x%20>

- Forman, S., & Zachar, P. (2001). Cross-cultural adjustment of international officers during Professional Military Education in the United States. *Military Psychology, 13*(2), 117–128. https://doi.org/10.1207/s15327876mp1302_04
- Friedman, B. A. (2018). The end of the fighting general: America’s top brass should abandon dreams of battlefield glory--and focus on paperwork instead. *Foreign Policy, 230*, 19.
- Gardner, W. L., Reithel, B. J., Coglisier, C. C., Walumbwa, F. O., & Foley, R. T. (2012). Matching personality and organizational culture. *Management Communication Quarterly, 26*(4), 585–622. <https://doi.org/10.1177/0893318912450663>
- Gibby, R. E., & Zickar, M. J. (2008). A history of the early days of personality testing in American industry: An obsession with adjustment. *History of Psychology, 11*(3), 164–184. <https://doi.org/10.1037/a0013041>
- Gintis, H. (1971). The Politics of Education. *Monthly Review, 23*(7), 40.
https://doi.org/10.14452/mr-023-07-1971-11_3
- Golan, A., Greene, W. H., & Perloff, J. M. (2021). Does the U.S. Navy’s reliance on objective standards prevent discrimination in promotions and retentions? *PLOS ONE, 16*(4). <https://doi.org/10.1371/journal.pone.0250630>
- Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. G. (2006). The international personality item pool and the future of public-domain personality measures. *Journal of Research in Personality, 40*(1), 84–96. <https://doi.org/10.1016/j.jrp.2005.08.007>

- Granello, D. H., & Wheaton, J. E. (2004). Online data collection: Strategies for research. *Journal of Counseling & Development, 82*(4), 387–393.
<https://doi.org/10.1002/j.1556-6678.2004.tb00325.x>
- Greene, A. G. (2019). *An analysis of the effects of minority command leadership on the retention of minority sailors* [Master's thesis, Naval Postgraduate School]. NPS Dudley Knox Library. <https://calhoun.nps.edu/handle/10945/62254>
- Griliches, Z., & Mason, W. M. (1972). Education, income, and ability. *Journal of Political Economy, 80*(3, Part 2). <https://doi.org/10.1086/259988>
- Hanoch, G. (1967). An economic analysis of earnings and schooling. *The Journal of Human Resources, 2*(3), 310. <https://doi.org/10.2307/144837>
- Hanushek, E. (1971). Teacher characteristics and gains in student achievement: Estimation using micro data. *American Economic Review, 61*(2), 280–288.
- Happawana, K. A. (2021). *Towards redefining implementation of personality assessment in professional military education*. Air University (AU).
<https://www.airuniversity.af.edu/Wild-Blue-Yonder/Articles/Article-Display/Article/2712594/towards-redefining-implementation-of-personality-assessment-in-professional-mil/>
- Hodson, G., Hogg, S. M., & MacInnis, C. C. (2009). The role of “Dark personalities” (narcissism, machiavellianism, psychopathy), big five personality factors, and ideology in explaining prejudice. *Journal of Research in Personality, 43*(4), 686–690. <https://doi.org/10.1016/j.jrp.2009.02.005>
- Holden, L., & Biddle, J. (2017). The introduction of Human Capital Theory into

education policy in the United States. *History of Political Economy*, 49(4), 537–574. <https://doi.org/10.1215/00182702-4296305>

Horval, S. (2020). *Authentic leadership*. Army University Press.

<https://www.armyupress.army.mil/Journals/NCO-Journal/Archives/2020/March/Authentic-Leadership/>

Huijzer, R., Jeronimus, B. F., Reehoorn, A., Blaauw, F. J., Baatenburg de Jong, M., de

Jonge, P., & den Hartigh, R. J. R. (2022). Personality traits of special forces operators: Comparing commandos, candidates, and controls. *Sport, Exercise, and Performance Psychology*, 11(3), 369–381.

<https://doi.org/10.1037/spy0000296.supp>

Ingram, P. B., Golden, B. L., & Armistead-Jehle, P. J. (2020). Evaluating the Minnesota

Multiphasic personality inventory-2-restructured form (MMPI-2-RF) over-reporting scales in a military neuropsychology clinic. *Journal of Clinical and Experimental Neuropsychology*, 42(3), 263–273.

<https://doi.org/10.1080/13803395.2019.1708271>

Johnson, J. (2000). *Racial and gender differences in the five factors of personality within military samples: Prepared by the Office of Naval Research*. Defense Equal Opportunity Management Institute.

Johnson, J. L., & Hill, W. R. (2009). Personality traits and military leadership. *Individual Research Differences*, 7(1), 1–3.

Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87(3), 530–541.

<https://doi.org/10.1037/0021-9010.87.3.530>

Kaiser, R. B., & Hogan, J. (2011). Personality, leader behavior, and overdoing it.

Consulting Psychology Journal: Practice and Research, 63(4), 219–242.

<https://doi.org/10.1037/a0026795>

Kalshoven, K., Den Hartog, D. N., & De Hoogh, A. H. B. (2011). Ethical leadership at

work questionnaire (ELW): Development and validation of a multidimensional measure. *The Leadership Quarterly*, 22(1), 51–69.

<https://doi.org/10.1016/j.leaqua.2010.12.007>

Kamarck, K. (2019). *Diversity, inclusion, and equal opportunity in the Armed Services:*

Background and issues for Congress (CRS Report No. R44321).

<https://crsreports.congress.gov>

Kapp, L. (2016). Military officer personnel management: Key concepts and statutory

provisions (CRS Report No. R44496). <https://fas.org/sgp/crs/natsec/R44496.pdf>

Kapp, L. (2021). *Defense primer: Military officers*. Congressional Research Service.

Retrieved from <https://crsreports.congress.gov/product/pdf/IF/IF10685>

Kennedy, C.H., Hacker-Hughes, J.G.H., & McNeil, J. (2012). A history of military

psychology. Kennedy, C. H., & Zillmer, E. (Eds.), In *Military psychology:*

Clinical and operational applications (2nd ed., pp. 1–24). The Guilford Press.

Kennedy, J. E., Cooper, D. B., Reid, M. W., Tate, D. F., & Lange, R. T. (2015). Profile

analyses of the personality assessment inventory following military-related

traumatic brain injury. *Archives of Clinical Neuropsychology*, 30(3), 236–247.

<https://doi.org/10.1093/arclin/acv014>

- Klee, S., & Renner, K.H. (2016). Beyond pride and prejudices: An empirical investigation of German Armed Forces Soldiers' personality traits. *Personality and Individual Differences*, 88, 261–266.
<https://doi.org/10.1016/j.paid.2015.09.020>
- Knowles, R. (2014). The intertwined fates of affirmative action and the military. *Loyola University Chicago Law Journal*, 45(4), 1027–1084.
<https://lawecommons.luc.edu/cgi/viewcontent.cgi?article=1481&context=luclj>
- Krishnamurthy, P. S. (2022). Racial bias in the United States Armed Forces: A threat to national security in the era of renewed great power competition. *Virginia Journal of Social Policy and the Law*, 29(32).
- Lin, C., & Alvarez, R. M. (2020). Personality traits are directly associated with anti-black prejudice in the United States. *PLoS ONE*, 15(7), 1–16.
<https://doi.org/10.1371/journal.pone.0235436>
- Lopez, C. T. (2022). *DOD releases National Defense Strategy, missile defense, nuclear posture reviews*. U.S. Department of Defense.
<https://www.defense.gov/News/News-Stories/Article/Article/3202438/dod-releases-national-defense-strategy-missile-defense-nuclear-posture-reviews/#:~:text=The%202022%20National%20Defense%20Strategy,and%20partners%20on%20shared%20objectives.>
- MacLean, A. (2018). A few good men and women: Gender, race, and status in the Wartime Volunteer Military. *Population Research and Policy Review*, 37(4), 591–613. <https://doi.org/10.1007/s11113-018-9479-z>

- Maddox, K. B. (2004). Perspectives on racial phenotypicality bias. *Personality & Social Psychology Review (Lawrence Erlbaum Associates)*, 8(4), 383–401.
https://doi.org/10.1207/s15327957pspr0804_4
- Magal, N., Hendler, T., & Admon, R. (2021). Is neuroticism really bad for you? dynamics in personality and limbic reactivity prior to, during and following real-life combat stress. *Neurobiology of Stress*, 15, 100361.
<https://doi.org/10.1016/j.ynstr.2021.100361>
- Maples-Keller, J. L., Williamson, R. L., Sleep, C. E., Carter, N. T., Campbell, W. K., & Miller, J. D. (2019). Using item response theory to develop a 60-item representation of the NEO-PI-R using the international personality item pool: Development of the IPIP-NEO-60. *Journal of Personality Assessment*, 101(1), 4–15. <https://doi.org/10.1080/00223891.2017.1381968>
- McClellan, B. J. (2020). *Disparity in black officer promotions: a survey of implicit racial attitudes among US Army officers* [Doctorate dissertation, Northeastern University]. ProQuest Dissertations & Theses Global.
<http://hdl.handle.net/2047/D20382022>
- McCormack, L., & Mellor, D. (2002). The role of personality in leadership: An application of the Five-Factor Model in the Australian Military. *Military Psychology*, 14(3), 179–197. https://doi.org/10.1207/s15327876mp1403_1
- McCrae, R. R. & Costa, P. T (1985). *The NEO personality inventory manual*. Odessa, FL: Psychological Assessment Resources.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality

- across instruments and observers. *Journal of Personality and Social Psychology*, 52(1), 81–90. <https://doi.org/10.1037/0022-3514.52.1.81>
- McCrae, R. R., & Costa, P. T. (1997). Personality Trait Structure as a Human Universal. *American Psychologist*, 52(5), 509–516.
- McCrae, R. R., & Costa, P. T., Jr. (2003). *Personality in adulthood: A five-factor theory perspective* (2nd ed.). Guilford Press. <https://doi.org/10.4324/9780203428412>
- McCrae, R. R., & Costa, P. T., Jr. (2006). Cross-Cultural Perspectives on Adult Personality Trait Development. In D. K. Mroczek & T. D. Little (Eds.), *Handbook of personality development* (pp. 129–145). Lawrence Erlbaum Associates Publishers.
- McCrae, R. R., and Costa, P. T. Jr. (2007). Brief versions of the NEO-PI-3. *Journal of Individual Differences*. 28, 116–128. doi: 10.1027/1614-0001.28.3.116
- McCrae, R., & Costa, P. (2010). *NEO Personality Inventory professional manual*. Lutz, FL: Psychological Assessment Resources.
- McCrae, R. & John, O. (1992). The five-factor model: issues and applications. *Journal of Personality*, 60(2), 175–532. <http://dx.doi.org/10.1111/j.1467-6494.1992.tb00970.x>
- McDonald, B. D. (2020). A human capital model of the Defense-growth relationship. *The Social Science Journal*, 58(2), 247–261. <https://doi.org/10.1016/j.soscij.2019.04.005>
- McFarland, S. (2010). Authoritarianism, social dominance, and other roots of generalized prejudice. *Political Psychology*, 31(3), 453–477. <https://doi.org/10.1111/j.1467->

[9221.2010.00765.x](#)

Meskelis, S., & Whittington, J, L. . (2020). Driving employee engagement: How personality trait and leadership style impact the process. *The Journal of Business & Industrial Marketing*, 35(10), 1457-1473. <https://doi.org/10.1108/JBIM-11-2019-0477>

Midi, H., Sarkar, S. K., & Rana, S. (2010). Collinearity diagnostics of binary logistic regression model. *Journal of Interdisciplinary Mathematics*, 13(3), 253–267. <https://doi.org/10.1080/09720502.2010.10700699>

Miles, M. R., & Haider-Markel, D. P. (2018). Personality and genetic associations with military service. *Armed Forces & Society*, 45(4), 637–658. <https://doi.org/10.1177/0095327x18765449>

Military Leadership Diversity Commission. (2010). Military Leadership Diversity Commission decision paper: #45. Arlington, Va.: Military Leadership Diversity Commission. <https://diversity.defense.gov/Portals/51/Documents/Resources/Commission/docs/Issue%20Papers/Paper%2045%20-%20Officer%20Promotion%20by%20Race%20Ethnicity%20and%20Gender.pdf>

Military Compensation to Support Retention, Performance, and Talent Management, 116th Cong. (2019). <https://doi.org/10.7249/CT505>

National Archives and Records Administration. (2017). *Black soldiers in the U.S. military during the Civil War*. National Archives and Records Administration. <https://www.archives.gov/education/lessons/blacks-civil->

[war#:~:text=By%20the%20end%20of%20the,19%2C000%20served%20in%20th
e%20Navy.](#)

National Naval Officers Association. (2022). *History of NNOA*. National Naval Officers Association. <https://nnoa.org/history/>

Naval History and Heritage Command. (2022). *Public law 333, 79th Congress*. Naval History and Heritage Command. Retrieved October 15, 2022, <https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/p/public-law-333-79th-congress.html>

Norton, E. C., Dowd, B. E., & Maciejewski, M. L. (2018). Odds ratios-Current best practice and use. *Journal of the American Medical Association*, 320(1), 84–85. <https://doi.org/10.1001/jama.2018.6971>

Office of the Chief of Naval Operations (2020, September 3). *Elimination of the display of the officer photograph during selection boards* (NAVADMIN 247/20). Department of the Navy N1. <https://www.public.navy.mil/bupers-npc/reference/messages/Documents/NAVADMINS/NAV2020/NAV20247.txt>

Osborne, J. & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation*, 8(2). <http://pareonline.net/getvn.asp?v=8&n=2>

Pastor Álvarez, A., Molero Alonso, F., Bardera Mora, M. del P., & Moriano León, J. A. (2019). Authentic leadership and its relationships with work engagement and organizational citizenship behaviors in military units: The role of identification as a mediating variable. *Military Psychology*, 31(5), 412–424. <https://doi->

[org/10.1080/08995605.2019.1646078](https://doi.org/10.1080/08995605.2019.1646078)

- Peterson, C., & Seligman, P. E. (2004). *Character strengths and virtues: A handbook and classification*. American Psychological Association.
- Ployhart, R.E., Lim, B. C, & Chan, K.Y. (2001). Exploring relations between typical and maximum performance ratings and the Five factor model of personality. *Personnel Psychology*, 54(4), 809–843. <https://doi.org/10.1111/j.1744-6570.2001.tb00233.x>
- Rad, M. H. S., Beshlideh, K., Naami, A., & EsmaelHashemi, S. (2019). Design and test of the genuine leadership outcomes model in a military unit. *International Journal of Occupational Hygiene*, 11(4), 271–282. <http://ijoh.tums.ac.ir>
- Ranganathan, P., Pramesh, C. S., & Aggarwal, R. (2017). Common pitfalls in statistical analysis: Logistic regression. *Perspectives in Clinical Research*, 8(3), 148. https://doi.org/10.4103/picr.PICR_87_17
- Reid, E. (2021). The courage to change: Modernizing U.S. Marine Corps human capital investment and retention. The Brookings Institute. <https://www.brookings.edu/research/the-courage-to-change-modernizing-u-s-marine-corps-human-capital-investment-and-retention/>
- Richard, K., & Molloy, S. (2020). An examination of emerging adult military men: Masculinity and U.S. military climate. *Psychology of Men & Masculinities*, 21(4), 686–698. <https://doi.org/10.1037/men0000303>
- Rostker, B., Thie, H., Lacy, J., Kawata, J., & Purnell, S. (1992). *The Defense Officer Management Act of 1980: A retrospective assessment*. The RAND Corporation.

<https://www.rand.org/content/dam/rand/pubs/reports/1993/R4246.pdf>

Salgado, J. (1998). Big five personality dimensions and job performance in Army and civil occupations: A European perspective. *Human Performance*, 11(2), 271–288.

https://doi.org/10.1207/s15327043hup1102&3_8

Samuel, D. B., & Widiger, T. A. (2008). A meta-analytic review of the relationships between the five-factor model and *DSM-IV-TR* personality disorders: A facet level analysis. *Clinical Psychology Review*, 28(8), 1326–

1342. <https://doi.org/10.1016/j.cpr.2008.07.002>

Schmidt, F. L. (2014). A general theoretical integrative model of individual differences in interests, abilities, personality traits, and academic and occupational achievement: A commentary on four recent articles. *Perspectives on Psychological Science*,

9(2), 211–218. <https://doi.org/10.1177/1745691613518074>

Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, 51(1), 1–17. <http://www.jstor.org/stable/1818907>

Shahzad, K., Raja, U. and Hashmi, S.D. (2021). Impact of big five personality traits on authentic leadership, *Leadership & Organization Development Journal*, 42 (2), pp. 208-218, doi: 10.1108/LODJ-05-2019-0202.

Sibley CG, Duckitt J. (2013). The dual process model of ideology and prejudice: A longitudinal test during a global recession. *The Journal of Social Psychology*.

153(4):448–66. <https://doi.org/10.1080/00224545.2012.757544>

Singh Setia, M. (2016). Methodology series Module 3: Cross-sectional studies. *Indian Journal of Dermatology*, 61(3), 261–264. <https://doi.org/10.4103/0019->

[5154.182410](https://doi.org/10.3389/fpsyg.2020.00747)

- Skoglund, T. H., Brekke, T.-H., Steder, F. B., & Boe, O. (2020). Big five personality profiles in the Norwegian Special Operations Forces. *Frontiers in Psychology, 11*. <https://doi.org/10.3389/fpsyg.2020.00747>
- Skoglund, T. H., Fosse, T. H., Lang-Ree, O. C., Martinsen, Ø. L., & Martinussen, M. (2021). Candidate personality traits associated with ratings in a military officer selection setting. *Scandinavian Journal of Work and Organizational Psychology, 6*(1). <https://doi.org/10.16993/sjwop.135>
- Slavonic, G.J. (2021, January 08). Order convening the FY-22 promotion selection boards to consider officers in the line on the active-duty list of the Navy for permanent promotion to the grade of captain [Memorandum]. Department of Navy. https://www.mynavyhr.navy.mil/Portals/55/Boards/Active%20Duty%20Officer/06line/Documents/FY22_AO6L_PSB_CONVENING_ORDER.pdf
- Spain, E. (2020). Reinventing the leader selection process. *Harvard Business Review, 98*(6), 78–85. <https://hbr.org/2020/11/reinventing-the-leader-selection-process>
- Sperandei, S. (2014). Understanding logistic regression analysis. *Biochimica Medica, 24*(1), 12–18. <https://doi.org/10.11613/BM.2014.003>
- Sümer, C., & Mete, I. (2019). Why do they leave? A conceptual model of military turnover. In *The Routledge International Handbook of Military Psychology and Mental Health* (1st ed., pp. 255-268). Routledge.

- 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), 153–164. <https://doi.org/10.1037/mil0000044>
- Stewart, J. B., & Firestone, J. M. (1992). Looking for a few good men: Predicting patterns of retention, promotion, and accession of minority and women officers. *American Journal of Economics & Sociology*, 51(4), 435–458. <https://doi.org/10.1111/j.1536-7150.1992.tb02727.x>
- Tarsiuk, A.L. (2019). *Complacency kills: A systematic analysis of the USMC command screening program* [Master's thesis, Naval Postgraduate School]. NPS Dudley Knox Library. <https://apps.dtic.mil/sti/pdfs/AD1073683.pdf>
- The ROCKS. (2022). *The ROCKS: History*. The National Board of the ROCKS, Inc. https://www.rocksinc.org/content.aspx?page_id=22&club_id=459944&module_id=51117
- United States Code Armed Forces, 10 U.S.C. No. 108-375, § 522-523, 531 (2011). <https://uscode.house.gov/view.xhtml?path=/prelim@title10/subtitleA/part2/chapter32&edition=prelim>
- United States Code Armed Forces, 10 U.S.C. No. 111-383, § 611-613a (2018). <https://uscode.house.gov/view.xhtml?hl=false&edition=prelim&path=%2Fprelim%40title10&req=granuleid%3AUSC-prelim-title10&num=0>
- U.S. Army Center of Military History. (2021). *Minority groups in World War II: U.S. Army Center of Military History*.

<https://history.army.mil/documents/wwii/minst.htm>

U.S. Navy Personnel Command (2022). Board statistics.

https://www.mynavyhr.navy.mil/Portals/55/Boards/Active%20Duty%20Officer/documents/FY22_Promotion_Board_Materials/FY22_AO5L_STATS.pdf?ver=IuPTgiHJpFW5XRSe3N-YEQ%3d%3d

U.S. Department of Defense. (2019). *2018 Demographics: Profile of the military community*. Military OneSource.

<https://download.militaryonesource.mil/12038/MOS/Reports/2018-demographics-report.pdf>

U.S. Department of Defense. (2020). *2019 Demographics: Profile of the military community*. Military OneSource.

<https://download.militaryonesource.mil/12038/MOS/Reports/2019-demographics-report.pdf>

U.S. Department of Defense. (2021). *2020 Demographics: Profile of the military community*. Military OneSource.

<https://download.militaryonesource.mil/12038/MOS/Reports/2020-demographics-report.pdf>

U.S. Department of Defense. (2022). *2021 Demographics: Profile of the military community*. Military OneSource.

<https://download.militaryonesource.mil/12038/MOS/Reports/2021-demographics-report.pdf>

U.S. Department of Defense. (2023). *2022 Demographics: Profile of the military*

community. Military OneSource.

<https://download.militaryonesource.mil/12038/MOS/Reports/2022-demographics-report.pdf>

U.S. Department of Veteran Affairs. (2015). *VISN 6 Recognizes early black military leaders*. VA Mid-Atlantic Health Care Network.

https://www.visn6.va.gov/VISN6/features/VISN_6_Recognizes_Early_Black_Military_Leaders.asp

Wang, C. Y.-P., Lien, M.-C., Jaw, B.-S., Wang, C.-Y., Yeh, Y.-S., & Kung, S.-H. (2019). Interrelationship of expatriate employees' personality, cultural intelligence, cross-cultural adjustment, and entrepreneurship. *Social Behavior and Personality: An International Journal*, 47(12), 1–16. <https://doi.org/10.2224/sbp.8341>

Wang, P., & Wang, J. (2018). How China promotes its military officers: Interactions between formal and informal institutions. *The China Quarterly*, 234, 399–419. <https://doi.org/10.1017/s0305741018000528>

Westergard, C. (2019). You catch more flies with Honey: Reevaluating the Erroneous Premises of the Military Exception to Title VII. *Marquette Benefits and Social Welfare Law Review*, 20(2), 215–257.

White, L. A., Nord, R. D., Mael, F. A., & Young, M. C. (1993). The Assessment of background and life experiences (ABLE). In T. Trent & J. H. Laurence (Eds.), *Adaptability screening for the Armed Forces*. Washington, DC: Office of the Assistant Secretary of Defense (Force Management and Personnel).

https://www.google.com/books/edition/Adaptability_Screening_for_the_Armed

[For/RTaN2k1rjkC?hl=en&gbpv=1&printsec=frontcover](#)

Appendix A: Demographic Questionnaire

The results of this demographic questionnaire will be used for descriptive statistics regarding the participants of this study. Please answer each question by clicking on the response that is most applicable; multiple responses are not permitted.

Thank you for taking the time to complete this section of this study.

1. Please indicate your age:

- 30-35
- 36-40
- 41-45
- 46-50
- 51-55
- 56-60
- 61-65
- 65 and older

2. Please indicate your years in active-duty service:

- Less than 15 years
- 15-20
- 21-25
- 26-30
- 31-35
- 36+

3. Please indicate your gender:

- Male
 - Female
4. Please indicate Service
- Army
 - Navy
5. Please indicate designate type of officer:
- Restricted Line Officer -Navy
 - Unrestricted Line Officer- Navy
 - Staff Corps Officer- Navy
 - Limited Duty Officers- Navy
 - Combat Arms Branch- Army
 - Combat Support Branch- Army
 - Combat Service Support Branch- Army
 - Special Branch- Army
6. Please indicate your race:
- Caucasian
 - Non-Caucasian
7. Please indicate your highest education level:
- Bachelor's Degree
 - Master's Degree
 - Professional Degree
 - Doctorate Degree

8. Please indicate your rank:

- O4
- O5
- O6
- O7
- O8
- O9
- O10

Appendix B: IPIP-NEO-60 Permission

Re: IPIP-NEO-60

Jessica Keller <jessmaples@gmail.com>

Tue 11/8/2022 10:24 AM

To: Margaret Raia <margaret.raia@waldenu.edu>

1 attachments (24 KB)

IPIP_NEO_60.docx

it is open source and free so please use as desired, best wishes!

On Tue, Nov 8, 2022 at 11:59 AM Margaret Raia <margaret.raia@waldenu.edu> wrote:

Hello,

I found your IPIP-NEO-60 while searching my university's library for tests measures using the FFM. My dissertation will examine the personality of military officers with the FFM as my theoretical foundation. Would it be possible for me to get more information on the IPIP-NEO-60, such as how to get permission for use, as manual (if needed), cost (if applicable)? My library had a link to the pdf, but it would not load the item pool document or actual IPIP-NEO-60. Thank you for your time!

Sincerely,
Maggie Raia

--

Jessica Maples-Keller, Ph.D.

Assistant Professor, Dept. of Psychiatry and Behavioral Sciences

Emory University School of Medicine

Appendix C: IPIP Instrument

**The IPIP-NEO- 60 (Maples, Williamson, Sleep, Carter, Campbell, and Miller, in press)
(International Personality Item Pool
Representation of the NEO PI-R™)**

The following pages contain phrases describing people's behaviors. Please use the rating scale next to each phrase to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then click the circle that corresponds to the accuracy of the statement.

Please read each item carefully and circle the one answer that best corresponds to your agreement or disagreement. If you the statement is **very inaccurate** circle **1**, if it is **moderately inaccurate** circle **2**, if it is **neither accurate nor inaccurate** circle **3**, if it is **moderately accurate** circle **4**, and if it is **very accurate** circle **5**.

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Strongly agree
	1	2	3	4	5
1. Worry about things.	1	2	3	4	5
2. Get stressed out easily.	1	2	3	4	5
3. Get angry easily.	1	2	3	4	5
4. Lose my temper.	1	2	3	4	5
5. Often feel blue.	1	2	3	4	5
6. Dislike myself.	1	2	3	4	5
7. Find it difficult to approach others.	1	2	3	4	5
8. Am easily intimidated.	1	2	3	4	5
9. Rarely overindulge.	1	2	3	4	5
10. Am able to control my cravings.	1	2	3	4	5
11. Remain calm under pressure.	1	2	3	4	5
12. Am calm even in tense situations.	1	2	3	4	5
13. Make friends easily.	1	2	3	4	5
14. Act comfortably with others.	1	2	3	4	5

1. Love large parties.	1	2	3	4	5
2. Avoid crowds.	1	2	3	4	5
3. Take charge.	1	2	3	4	5
4. Try to lead others.	1	2	3	4	5
5. Am always busy.	1	2	3	4	5
6. Am always on the go.	1	2	3	4	5
7. Love excitement.	1	2	3	4	5
8. Seek adventure.	1	2	3	4	5
9. Have a lot of fun.	1	2	3	4	5
10. Love life.	1	2	3	4	5
11. Have a vivid imagination.	1	2	3	4	5
12. Love to daydream.	1	2	3	4	5
13. Believe in the importance of art.	1	2	3	4	5
14. Do not like art.	1	2	3	4	5
15. Experience my emotions intensely.	1	2	3	4	5
16. Am not easily affected by my emotions.	1	2	3	4	5
17. Prefer to stick with things that I know.	1	2	3	4	5
18. Don't like the idea of change.	1	2	3	4	5
19. Avoid philosophical discussions.	1	2	3	4	5
20. Am not interested in theoretical discussions.	1	2	3	4	5
21. Tend to vote for liberal political candidates.	1	2	3	4	5
22. Believe in one true religion.	1	2	3	4	5
23. Trust others.	1	2	3	4	5
24. Believe that others have good intentions.	1	2	3	4	5
25. Cheat to get ahead.	1	2	3	4	5
26. Take advantage of others.	1	2	3	4	5

1. Love to help others.	1	2	3	4	5
2. Am concerned about others.	1	2	3	4	5
3. Insult people.	1	2	3	4	5
4. Get back at others.	1	2	3	4	5
5. Believe that I am better than others.	1	2	3	4	5
6. Think highly of myself.	1	2	3	4	5
7. Sympathize with the homeless.	1	2	3	4	5
8. Feel sympathy for those who are worse off than myself.	1	2	3	4	5
9. Handle tasks smoothly.	1	2	3	4	5
10. Know how to get things done.	1	2	3	4	5
11. Like to tidy up.	1	2	3	4	5
12. Leave a mess in my room.	1	2	3	4	5
13. Tell the truth.	1	2	3	4	5
14. Break my promises.	1	2	3	4	5
15. Work hard.	1	2	3	4	5
16. Set high standards for myself and others.	1	2	3	4	5
17. Carry out my plans.	1	2	3	4	5
18. Have difficulty starting tasks.	1	2	3	4	5
19. Make rash decisions.	1	2	3	4	5
20. Act without thinking.	1	2	3	4	5

Appendix D: Survey Consent Form

You are invited to complete an anonymous online questionnaire for a Walden University doctoral study. To provide your informed consent, please review the information below and continue on to the survey if you choose to proceed.

Your role:

- is completely voluntary and can end at any time you wish
- is anonymous (your name will not be requested)
- involves completing a questionnaire
- involves little or no risk

Privacy:

To protect your privacy, the researcher will not collect, track, or store your identity or contact info. In place of a consent signature, your completion of the questionnaire would indicate that you consent to your responses being analyzed in the study.

Data will be kept secure by using password-protected devices and platforms. Data will be kept for a period of at least 5 years, as required by the university.

Once the doctoral student graduates, the study's results will be posted online in [Scholarworks](#) (a searchable publication of Walden University research).

Contacts and Questions:

Questions about the study can be emailed to the student researcher via Margaret.raia@waldenu.edu. If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at 612-312-1210 or email IRB@mail.waldenu.edu. Walden University's ethics approval number for this study is 09-12-23-0549415.

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact info above.

Appendix E: Study Invitation

Survey study seeks U.S. Army and Navy officers to share personality traits

There is a new study about officer personality traits and promotion. You are invited to complete a 10–15-minute anonymous survey.

Seeking volunteers that meet these requirements:

- U.S. Army and Navy officers that are active-duty, retired, or separated. Reservist and National Guard officers are not part of this study.
- Paygrades of O4-O10.
- O4s who have failed officer selection (FOS) to O5 paygrade or Officers in the O5-O10 paygrades.

This study is part of the doctoral program for Margaret Raia, a Ph.D. student at Walden University. The survey will be open until the end of December.

Please click

https://qualtricsxmzcxlgzys7.qualtrics.com/jfe/form/SV_083dOLmugQ8RiUC to view the consent form and begin the survey.