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Navy Security Force (NSF) Retention Analysis

June 2024

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ACQUISITION RESEARCH PROGRAM
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ABSTRACT

This study analyzes and assesses the shortcomings of the Navy Security Force personnel footprint, specifically as it pertains to the current retention challenges NSF faces. The NSF is critical to the Navy's mission, ensuring the safety of naval assets. Despite the force's criticality, retention of personnel is a persistent issue likely due to factors including salary, pension, work-life balance, job duties, and military requirements. By analyzing data received from the Defense Manpower Data Center (DMDC) and the Pentagon, the study employs statistical techniques, including trend line analysis, to identify the most prominent factors contributing to this issue. The analysis found that Navy Security Forces earn up to 45% less than local law enforcement in key states, face limited career growth, and show a notable trend where women—despite comprising only 10% of the force—exhibit consistently higher retention rates than men.

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LIST OF ACRONYMS AND ABBREVIATIONS

ASF	Auxiliary Security Force
ASVAB	Armed Services Vocational Aptitude Battery
BAH	Basic Housing Allowance
CWO	Chief Warrant Officer
DMDC	Defense Manpower Data Center
DoD	Department of Defense
FLETEC	Federal Law Enforcement Training Center
LDO	Limited Duty Officer
MA	Master-at-Arms
NSF	Navy Security Forces
WO	Warrant Officer

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EXECUTIVE SUMMARY

The Navy Security Forces are responsible for maintaining the safety and security of naval personnel and property through access control, law enforcement, force protection, and antiterrorism efforts. The history of the MAs dates to 1797 during the French Revolutionary wars in support of protecting American merchant ships (Naval History and Heritage Command, n.d.). In recent years, this community has faced a myriad of challenges pertaining to the retention of qualified Master-at-Arms and Department of the Navy Police Officers. Data from the Defense Manpower Data Center (DMDC) indicates a steady decline in both recruitment and retention. Maintaining adequate manning levels in a community as critical as NSF is essential for supporting consistent force readiness, national defense security, threat deterrence, and daily base access.

This thesis analyzes data from the Defense Manpower Data Center (DMDC) and the Pentagon to identify trends in Navy Security Forces retention using statistical techniques, including regression analysis. The data was cleaned and processed using Stata, a statistical software commonly used for manpower research, to generate graphs that display retention patterns over time across gender, rank, and duty station. Key variables include paygrade, salary, education level, years of service, and manpower by gender accompanied by comparative data on the civilian police force obtained from the Bureau of Labor Statistics. Upon the collection and analysis of data we recommend that the Navy Security Forces incentivize career progression pathways, integrate targeted pay adjustments and implement benefits, as well as optimize the workforce through a thorough Cost Benefit Analysis.

There is a clear solicitation for information regarding the current retention trends within NSF. Challenges in retaining personnel are widespread within both the NSF community and the military at large. Current literature highlights several key issues including pay, organizational culture, work-life-balance, job responsibilities, job structure, and pension benefits. The limited research available on NSF makes this study crucial to making progress. The structure of the Navy Security Forces is unique, compromised of both Active-Duty Enlisted Personnel and Non-Military Personnel, known as the DON

Police. The role of NSF is to provide security on land for Naval installations, with the MAs also specifically trained to provide security to Naval vessels out at sea (Master-at-Arms, 2024). The MAs and Navy Police conduct 100% ID checks at base access points, enforce traffic laws, conduct physical security inspections, execute exercise scenario training and emergency response, and deter incidents in threats (Master-at-Arms, 2024). The Master-at-Arms receive their training from "A" school, while the Navy Police attend the Federal Law Enforcement Training Center (Federal Law Enforcement Training Centers, n.d.). The Auxiliary security Forces support NSF through collateral augment duties and are trained at the Auxiliary Security Force Academy (Naval Support Activity Mid-South, 2022).

Current research implies that it costs the Navy about $35,000 to send each sailor to Navy Boot camp, with 40% of sailors leaving before completing their four-year term (Abrashoff, 2001). The Journal of Military Medicine determined that the key factors contributing to retention include job satisfaction, career intentions, and personnel demographics, including marital status. About $1 billion was granted to the Office of Community Oriented Policing Services to research current issues with retention in the Federal Law Enforcement community, revealing the parallel significance of this issue in this community (Wilson et al., 2010). A survey conducted by the Police Executive Research Forum found that when it comes to resignation, there is a 47% increase in the years 2019 to 2022, revealing that agencies are losing police officers faster than they can recruit new ones (Police Executive Research Forum, 2023). The parallels between federal law enforcement and the military suggest potential cross-sector solutions to address these challenges.

The main research question we asked was: "What are the data trends and potential solutions to improve Navy Security Force (NSF) retention?" Our research plan included reviewing the key datasets suited for metrics comparison; collecting, evaluating and formatting datasets; running mathematical modelling and descriptive statistics to perform data analysis through Stata, and compiling a report to offer courses of action. Secondary data for both the Navy Police and Master-at-Arms was sourced from a database at DMDC.

This thesis uses quantitative research design to analyze retention in the Navy Security forces. The data on the Civilian Police covered 18,962 observations from

September of 2017 to July of 2024. The data on Enlisted Master-at-Arms covered 214,167 observations from 2001 to 2024. Data was also captured from the Bureau of Labor Statistics concerning the state and national salaries of Federal Police to be compared to data on NSF salaries. To assess retention over time, the data was cleaned using Stata software to determine outliers through standard deviation, common trends through mean values, and maximum and minimum contributions. Regression analysis was the statistical method used to correlate retention trends with key independent and dependent variables.

The data shows that within the Civilian Navy Police only 10% of the workforce consists of female operators, highlighting a significant gender imbalance in the force. Regarding education, 52.7% have a High School diploma as their highest education level and only 16.4% have earned a bachelor's degree. In terms of military background, 56.7% of the force has prior military service and 43.3% do not—a number that is steadily increasing. More than half of the community, 53.7%, are between the ages of 26 and 45, and 50.8% have served for less than 5 years. The highest concentrations of Navy Police are in states with a higher cost of living, including Florida, Hawaii, Maryland, and Virginia. Nationally, federal law enforcement officers earn, on average, 33% more than their Navy Police counterparts.

The data shows that 20% of the Enlisted Master-at-Arms are female and 79.6% have a High School diploma as their highest education level. The highest concentration of the force has between 0 and 5 years of service, with 53% between E4 and E5 in the year 2024. The Master-at-Arms rating is heavily concentrated in California, Virginia, Washington State, and Texas. Unlike the Navy Police, the Master-at-Arms receive Base Housing Allowance (BAH) to supplement the high cost of living in these areas.

The analysis determined a clear relationship between salary and retention rates in the Navy Security Forces, specifically for the Navy Police. Data compiled from the Bureau of Labor Statistics indicates that the five states with the highest concentration of Navy Police—VA, CA, FL, HI, and MD—have salary disparities with federal police officers, with differences of 76%, 58%, 55%, 20%, and 16% respectively.

When it comes to the Civilian Navy Police, there is a strong concentration of the force in early career positions, with limited years of experience, a significant decrease in the number of Navy Police Officers with prior military service, and the salaries of the Navy Police are significantly less than those of the Federal Police Force. These conclusions would suggest that an increase in annual salary, pension benefits, and housing stipends would positively impact retention rates for the Navy Police Force. The most notable finding is that on average Federal Police Officers in the United States make 33% less than Navy Police Officers. There is a tendency for Naval Bases, especially on the West coast, to be in areas where there is a high cost of living. Taking this into account, and the fact that Civilian Navy Police do not receive Base Housing Allowance the way that Active-Duty Military members do, suggests that the salary and/or benefits for Navy Police should increase notably.

When it comes to the Master-at-Arms rate there are 25% more males in service than females and a significant concentration of the community has between 0 and 5 years of service. This data suggests that there may not be a clear enough progression pathway for the enlisted Master-at-Arms, making it more enticing to seek a career in the civilian world after 5 years of service. It also suggests that there may be a significant portion of this community that is flexible, attempting this career early on in life but possibly desiring another career, with less risk than law enforcement, as they age. To incentivize this career for service members with a spouse and children, the community should offer strong family care options, spousal career support, family bonuses, and housing upgrade assistance. This would not only help retain younger personnel in the service, but over time it would foster a stronger leadership presence as the younger generations rise in rank and support similar opportunities for the new MAs.

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I.   INTRODUCTION

The mission of the Navy Security Force (NSF) is "to develop and deliver tactically relevant force protection, law enforcement, code of conduct, and expeditionary warfare training" (Orrell, 2021). The NSF plays a critical role in the U.S. Navy's mission by ensuring the safety and security of naval assets. However, the NSF faces ongoing challenges related to recruiting and retaining skilled personnel. Historically, military organizations have grappled with similar issues, leading to a body of research focused on understanding the complexities of personnel management. Utilizing standard statistical techniques such as trend line analysis and summary statistics are integral to gaining valuable insights into recruitment, retention, and other workforce-related challenges. Past research in military personnel management has underscored the importance of employing these statistical methods to identify influential factors affecting recruitment sources, retention rates, and overall workforce demographics.

The NSF is the backbone behind safeguarding Naval assets, installations and personnel and the men and women that make up the NSF endure a challenging training evolution covering tactical competencies, close quarters combat, small arms expertise, and maritime security tactics (Orrell, 2021). This training gives NSF personnel the skills to employ force protection across a range of domains, covering physical security, screening, intelligence, and rapid response (Orrell, 2021). The security of Naval assets both ashore and afloat are protected and monitored by the NSF. The Navy organizes Force Protection into "three pillars: Antiterrorism, Physical Security and Law Enforcement" ("Master-At-Arms (MA)," 2024). NSF maintains the security of Naval personnel and resources, so that the fleet can accomplish its many missions around the world.

The two main occupational specialties within the Naval Security Force are the enlisted Master-at-Arms (MAs) and the Department of the Navy Police (Navy Police). The MAs are security specialists that support the maritime and ashore missions by providing physical security, handling security patrols and responding to investigations that violate the UCMJ (Center for Security Forces, n.d.). The Navy Police, also referred to as the civilian gate guards, maintain the security of access points on bases through the verification

of personnel. Both the MAs and the civilian gate guards work in conjunction to conduct vehicle inspections, authorize screenings, and report possible threats to protect the security of Naval bases (MyNavy HR, n.d.-b.).

The Navy security forces retention issue is likely highly influenced by factors including salary, pension, work-life-balance, job description and duties, and overall military requirements. This study will investigate which factors are most notable to better understand what the Navy can do to maintain its personnel within the security force sector. An identification of key issues at hand is best compiled through an understanding of job descriptions and key participants, researching the history behind the NSF, and understanding the training requirements for personnel. Data will be compiled from the Defense Manpower Data Center to present graphs and charts through trend line analysis, which will support the possible causes of retention in the NSF.

The data compiled from DMDC and the Pentagon are crucial for this research, considering this issue has not yet been studied. There is a clear knowledge gap, made especially obvious by the lack of literature compiled on the matter in question. The research will seek to close this gap through analysis of measurable and verifiable data related to personnel in the NSF. This will be the backbone of data-driven decision making that will follow, to suggest possible ways forward. Retention is an issue in the military at large and has been thoroughly researched up to this point. The literature analyzing previous studies of military retention issues, as well as issues with retention in the civilian law enforcement sector will be used to back up the data driven analysis (Recruitment and Retention for the Modern Law Enforcement Agency," 2023).

Overall, the Navy Security forces face a clear retention dilemma, as supported by data extracted from DMDC and the Pentagon. This research aims to transform the way the NSF approaches factors such as salary, pension, work-life-balance, and daily on the job duties, in hopes of higher retention rates within the force. Navy Security Forces play a critical role in the Navy's mission.

II.   BACKGROUND AND LITERATURE REVIEW

A.   BACKGROUND

1.   Job Description of Navy Security Forces–Department of the Navy Police and Enlisted Master-at-Arms

Navy Security Forces are tasked with protecting Naval assets from potential threats by performing antiterrorism, force protection, physical security, and law enforcement in a variety of environments (Navy MA Job Description Card). The Force is comprised of Navy enlisted Master-at-Arms (MAs) and Department of the Navy Police Officers who are civilians. According to MyNavy HR, Navy Security Forces are trained to be able to provide security on land at Naval installations such as Naval bases, warehouses, manufacturing plants, and hospitals. MAs are also trained to provide security on Naval ships out at sea. Navy Security Forces play a critical role in maintaining a ready and secure environment for the warfighter through deterrence, detection, defense, and defeat of active threats (MyNavy HR, n.d.-b.).

DON Police and MAs are most recognized for doing ID checks at base access points (gates) for personnel accessing Naval bases. While on gate duty, they do 100% ID checks and random vehicle inspections to ensure personnel and property on base are protected from outside threats. On base, they conduct law enforcement operations to include enforcement of traffic and parking rules, monitoring assigned areas, performing physical security inspections, operating the brig, and controlling physical security barriers such as locks and fences (Master-at-Arms [MA], 2024). They are always on call for a plethora of other duties to include responding to medical/behavioral emergencies, conducting security checks for bomb and drugs threats, responding to incidents, ensure safe movement of funds and weapons, and ensuring that important government officials and high-ranking military officers are escorted safely (Master-at-Arms [MA], 2024).

Enlisted Master-at-Arms can be stationed on board Navy ships as well, where they serve as the ship's security officer or a part of the ship's security team. When this is the case, their responsibilities consist of operating the brig, conduct training with the ship's

crew, perform waterborne security patrol and interdiction operations, and responding to threats and emergencies just like they do on installations (Master-at-Arms [MA], 2024).

2. History of Enlisted Master-at-Arms

The Master-at-Arms rate in the U.S. Navy has rich history. It is one of the oldest ratings that still exists in today's modern Navy, dating back to its creation in 1797. Congress passed the Naval Act on July 1st, 1797, to protect American merchant ships from threats posed by the French Revolutionary Wars. In the Act, Congress called for each ship to have a Master-at-Arms (*Act Providing a Naval Armament*, n.d.). It was then disestablished in 1921, and all responsibilities of an MA were dispersed to other sailors as collateral duties (Kay, 2022). Fifty-two years later, on August 1st, 1973, the rate was re-established and was only available to enlisted paygrades E-6 and above which the exception of E-5s that had prior law enforcement related qualifications. When it was re-established, the Navy had over 2,000 sailors apply and 486 were selected (Orrell, 2021).

Prior to the tragic events of 9/11, the MA rating was more strictly defined as overseas law enforcement. 9/11 was pivotal in the role MAs would play in the modern Navy and the post 9/11 MA rating was tasked with even more responsibilities than just law enforcement. They now also heavily focus on more security, force protection, and antiterrorism duties (Orrell, 2021). The increased responsibilities of them were accompanied by an increased demand for MA personnel. Before 9/11 there were about 1,000 MAs in the fleet and by 2007 the Fleet had reached 13,000 (Orrell, 2024).

3. History of Navy Security Forces

The events of 9/11 sparked even more change regarding security and protection than just the addition of extra duties for MAs. The Navy recognized the need to increase the Fleet's antiterrorism and force protection (ATFP) position globally, so the Chief of Naval Operations at the time established the Antiterrorism Force Protection Warfare Development Center (ATFPWDC) under the U.S. Fleet Forces Command. This center was established to address the training and doctrinal challenges across the security force related to antiterrorism and force protection and would enable sailors and Navy Police to receive more tailored and pinpointed training to better perform their duties and successfully

complete tasked missions. By June of 2004, the ATFPWDC became the Center for Antiterrorism and Navy Security Forces and then was later renamed the Center for Security Forces (CENSECFOR) in 2006 (Orrell, 2024). CENSECFOR is a learning center that falls under the Naval Education and Training Command (NETC) and is responsible for delivering advanced training to over 20,000 security force students per year at fourteen different training locations both nationally and internationally (Center for Security Forces, n.d.).

In tandem with the Center for Security Forces, the Navy Security Force also heavily relies on the Federal Law Enforcement Training Center (FLETC) to train Federal law enforcement officers which include the Department of the Navy Police. In 1970, the Consolidated Federal Law Enforcement Training Center (CFLETC) was established in response to an alarming study done in the late 1960s that showed the need for more standardized and high-quality training, modern training facilities, and professional instructors to provide the training. Congress originally chose Washington, DC, as the home base for the training center but after construction delays, Glynco Naval Air Station in Brunswick, Georgia was chosen as the new site. By 1975, training began at the new headquarters and the center was renamed Federal Law Enforcement Training Center (FLETC). Today, there are three other training facility branches in Artesia, NM, Charleston, SC, and Cheltenham, MD. FLETC was originally under the Treasury Department but following the attacks on 9/11, they were transferred to the Department of Homeland Security in 2003 to better support the unified homeland security effort (Federal Law Enforcement Training Centers, n.d.).

4. Training Requirements–Enlisted

The following paragraphs outline the differences between the Department of the Navy civilian police force and the military security force, based on their respective training requirements.

Future NSF members must begin by enlisting in the U.S. Navy. To enlist, a future sailor must be a U.S. citizen or Legal Permanent Resident and be between the ages of 17 and 41. The individual must have a high school diploma or GED equivalent and receive a

qualifying Armed Services Vocational Aptitude Battery test (ASVAB) score, for both the general enlisted standard and the Master at Arms score requirement (U.S. Navy, n.d.). The ASVAB tests verbal, math, science and technical skills, which are combined to form an overall score based on these subparts (*What Career Is Right for Me? | ASVAB Career Exploration Program*, n.d.). The Master at Arms rate requires a score of at least a 43 on the word-knowledge subsection and at least a 98 word-knowledge and Arithmetic Reasoning composite score (U.S. Navy, n.d.). Sailors who desire to become a Master-at-Arms are encouraged to develop clear communication skills and mental flexibility, to be ready to respond to needs when they arise. The Navy also recommends they attain a sound ability to write clearly, retain knowledge and memory, and have keen attention to detail. (U.S. Navy, n.d.). Prospective Master at Arms must be physically competent, in all fitness areas, be coachable, and prepare to attain competence in machinery and weapons systems (U.S. Navy, n.d.).

Candidates must then pass the military entrance processing station medical exam and meet the physical, mental and moral standards of the Navy, which includes passing the Physical Readiness Test (PRT). The PRT is comprised of a strength portion and cardio portion. The sailor will complete max pushups in two minutes, maximum plank and a timed 1.5-mile run (U.S. Navy, n.d.-b).

Once these standards have been met, candidates must enlist and attend Navy boot camp. The Navy's only training facility is in Great Lakes IL, where potential sailors go to face the 10 week-long transformations from a civilian to a Navy sailor, rooted in culture, tradition and heritage. Boot camp sets each sailor up with a foundation for their service in the Navy, no matter what future military occupation they are assigned (America's Navy, n.d.). Following recruit training, enlistees with a Master-at-Arms rating go on to attend "A" school in San Antonio, Texas for 10 weeks (Master-At-Arms, n.d.). Students are given lessons on subjects including antiterrorism techniques, armed sentry techniques, crime prevention, military and civil law, first aid, etc. (Navy MA Job Description Card). Upon completion, sailors officially qualify as a Master-at-Arms (MA).

If a sailor is screened for specialized training, they are sent to "C" school, which is considered training for the Navy's finest sailors. Here they receive instruction on unique

technical training related to their rating (FLETA, 2023). The MAs have an opportunity to take part in a "C" school at Naval Technical Training Center Lackland, which provides them with instruction on skill sets and execution of law enforcement within the Navy (Rating Information Card, 2024). Following "C" school, MAs are assigned a four-digit Navy Enlisted Classification code to specific their area of expertise. To receive one of the 21 NECs, MAs must complete "C" school. Most enlisted law enforcement personnel will take part in a specialized training at "C" school (Master-At-Arms, 2024).

5.   Auxiliary Security Force (ASF)

The Navy Security Forces also includes the Auxiliary Security Force. The ASF is charged with providing security personnel during "contingencies, terrorist attacks, natural disasters, civil disturbances" and other high level security events (Department of Defense n.d.). Force protection condition is a DoD designed system that rates threat levels against Navy installations, to provide necessary precautions during progressive levels of risk (Theisen, 2025). During these circumstances, the enlisted personnel that make up this collateral augment base security. It is made up of mostly enlisted security force personnel who take on a collateral duty billet (Department of Defense n.d.).

Sailors who hold the ASF collateral come from a diverse background of numerous ratings. To streamline their training, they attend the Auxiliary Security Force Academy to learn the basics of security and reaction force (Naval Support Activity Mid-South, 2022). Auxiliary Security force personnel must complete both the Security Sentry and the Reaction Force Member courses, with passing scores. The Security Sentry Course instructs on self-defense techniques, lethal and non-lethal weapons, and security force fundamentals (SRF-B: Preparing to Protect, n.d.). The Reaction Force member course teaches close quarters combat and response for critical incidents. The ASF Academy is a combined four weeklong course. These sailors are then utilized in high Force Protection conditions (Naval Support Activity Mid-South, 2022).

6.   Limited Duty Officer (LDO) and Chief Warrant Officer (CWO)

The Limited Duty Officer and the Chief Warrant Officer are positions earned by enlisted personnel who transition into officers (Manual, 2006). LDO's are often considered

technical managers, whereas Chief Warrant Officers are considered technical specialists, both within the Navy's staff Corps (Manual, 2006). Personnel in these roles must undergo a 4-week-long training course to develop them into commissioned officers (Orrell, 2021). These Enlisted sailors are selected as applicants to take part in this training if they have demonstrated superior and sustained performance and a potential to be a strong leader with adaptability (U.S. Navy, 2024a). The CWOs are considered to be technically proficient in regard to the Navy Security Forces and its environment (MyNavy HR, n.d.-c).

7.   Training Requirements–Department of the Navy Police

The Navy police enact law enforcement duties, engage in force protection and take part in physical security operations. These individuals support and compliment the enlisted police force (Federal Law Enforcement Training Centers, n.d.). The 0083 series and the 0085 series are both civilian law enforcement rates in the Department of the Navy Security Forces. To apply to become a Navy police officer, an individual must either meet the minimal qualifications for their desired level of expertise or participate in training to achieve their desired position. For applicants in the 0083 rating, seeking a job as a GS-4 or below, evidence of previous experience in work pertaining to the protection of data or equipment must be provided. The applicant must also prove to have had experience in sound decision making (U.S. Office of Personnel Management, n.d.a).

Applicants seeking a position as a GS-4 or above must provide a concrete understanding of basic law enforcement policy, laws, regulations and practices. These individuals must have had prior job experience in a police force, in which they provided protection and supervision service. This includes state or national park services (U.S. Office of Personnel Management, n.d.a). The education and training required for specific pay grades in the Navy Police force are as follows: GS-2: High School degree, GS-3: One year of study at an authorized college or university (with at least six hours of police-based study), GS-4: Two years of study at an authorized college or university (with at least twelve hours of police or criminal based study), and a GS-5: Bachelor's degree in Police Science or an education curriculum related to law enforcement (U.S. Office of Personnel Management, n.d.a).

Applicants in the 0085 rating follow a similar pipeline. Individuals can quality through experience or training and education. Those seeking to achieve the rank of GS-4 or below, must provide evidence in an administrative role, specifically one requiring effective response when handling written regulations and instructions (U.S. Office of Personnel Management, n.d.b). These roles must have been performed in settings ranging from federal agencies to private organizations, of which enforce property and/or life protection. This can include security guard positions in military, federal or medical settings (U.S. Office of Personnel Management, n.d.b).

Applicants must then participate in a security investigation to prove loyalty to the United States government and evidence of the integrity and character required to be in the Navy Security Force making (U.S. Office of Personnel Management, n.d.a). They must also meet the medical standards required to join the Navy Security Force. These ensure a reduction of risk in the security force. Applicants are evaluated in vision, hearing, and an overall examination of possible medical conditions making (U.S. Office of Personnel Management, n.d.a).

B.   LITERATURE REVIEW

1.   Current Issues with Retention–Navy

Sailors are the foundation of naval defense, placing retention at the forefront of mission readiness, especially as the world continues to evolve. Threats to warfighter retention leave the Navy with an insufficient supply of personnel. The issue must be properly evaluated for solutions, as it continues to pull funding from the U.S. public at about $35,000 per sailor to "send them through nine weeks of boot camp" (Abrashoff, 2001). The question then becomes, how can the DoD utilize the knowledge of these factors to help retain its Navy personnel? According to the Harvard Business review, "Forty percent of the navy's new recruits will wash out of the service before their four-year tours are up" (Abrashoff, 2001). This inconsistency in supply could affect the ability of the force to meet missions, both in and out of wartime.

The Journal of Military Medicine analyzes the factors that contribute to retention in Navy personnel, most notably as they relate to job satisfaction, career intentions and

demographics (Taylor et al., 2020). PhD authors, Marcus Taylor, Lisa Hernandez, and Monique Clinton-Sherrod, compiled data from 798 men and women in the U.S. Navy, who voluntarily completed the Naval Unit Behavioral Health Needs Survey. This data, ranging in years from 2014 to 2016, focuses on unit organization, cohesion, moral and commitment, social resources, mental health symptoms, sleep performance, leadership effectiveness, stress indicators, and career trajectory (Taylor et al., 2020).

The data was sorted into 12 groups for analysis: personnel and unit moral, unit cohesion, affective organizational commitment, social support, depressive symptoms, anxiety symptoms, post-traumatic stress symptoms, aggressive behavior, amount of sleep, leadership satisfaction, perceived stress, job satisfaction, and career intentions (Taylor et al., 2020). The data was then transformed to reduce skew and examined through regression models which measured the correlation between each independent variable and the dependent variables, job satisfaction and career intentions. The results of the regression model indicated that affective organizational commitment was the strongest predictor of job satisfaction, career intentions and employment results. Additionally, non-white, married service members showed a higher likelihood of staying in the military past their commitment. As expected, job satisfaction and career intentions had a positive correlation (Taylor et al., 2020).

The journal article indicates key factors that predict job satisfaction and career intentions, ultimately influencing retention. However, the study did face limitations regarding sample demographics. The sample size was determined to be "both demographically representative of the broader U.S. Navy" and pooled strongly around certain services. This convenience sampling may have led to over or under representation of specific groups in the study (Taylor et al., 2020). Despite these limitations, the study remains credible, well-articulated, data driven, and influential in advancing retention research and practical implementation.

The Calhoun institutional Archive of the Naval Postgraduate School researched the deficiencies in understanding service member career trajectories and what policy changes would have a positive outcome on manpower projection (Ahn et al., 2019). They analyzed data from three sources: the Bureau of Naval Personnel, the Navy Personnel Command,

and the Defense Manpower Data Center (DMDC). The officers studied officers commissioned between the years of 1999–2003 until their year of separation or their 10-year service mark (Ahn et al., 2019).

Out of 16,143 observations (not including limited duty officers or warrant officers), the study identified discrepancies in retention rates as it pertains to "gender, marital and dependent status, race, and education level" (Ahn et al., 2019). Further analysis revealed that officers with STEM backgrounds are more likely to leave the service earlier than their non-STEM counterparts. Additionally, married men with dependents and graduate level education have the longest average career in the Navy (Ahn et al., 2019). Although well conducted, the study had some limitations, including the lack of data on Limited duty officers, warrant officers, and enlisted personnel. The simulation also assumes that labor markets remain at equilibrium, which is not always the case (Ahn et al., 2019). Furthermore, the report does not specify if resignations from the service were voluntary or involuntary. Despite these limitations, the study effectively addresses the research question, using dynamic modeling, regression analysis, and long-term trends to examine the monetary and non-monetary policy impacts on retention and career trajectory.

2.   Current Issues with Retention–Civilian Police Force

The law enforcement community faces a constant battle to retain officers within their agencies. It is a battle paramount to the safety of local communities and the nation as a whole. The stabilization issue is rooted in officers leaving law enforcement within minimal years of service and seeking out other competitive occupations. To paint the picture more clearly, the Office of Community Oriented Policing Services was granted one billion dollars to research and analyze the gaps existing in law enforcement positions and leading contributors (Wilson et al., 2010).

RAND authors Jermy Wilson, Eric Dalton, Charles Scheer, and Clifford A. Grimmich, allude to retention issues in the police force through the bucket metaphor. The bucket mimics the demand for police officers. The water level, which rises and falls, portrays attrition, constantly falling below the fill line. Here lies the clear unmet demand, where demand for employment is not being supplied. The bucket metaphor attributes these

issues to leaks, faucet flows and the constant expansion of the bucket (Wilson et al., 2010). The leaks are attrition issues, set forth by unappealing work conditions, early retirement and lack of job satisfaction within the law enforcement agency (Wilson et al., 2010). The faucet flow is the younger generation of workers being pulled in other directions by the competition in other workforce communities. All the while, the bucket is expanding. As crime rates increase, communities are forced to respond to situations of higher risk (Wilson et al., 2010). To fill the bucket, Wilson et al. suggests ongoing studies of the police officer population to identify trends in job satisfaction, as well as an increase in compensation and benefits. The implementation of longer contracts, such as those used in the military, increases the retention officers for a longer period but could affect recruitment (Wilson et al., 2010).

The Police Executive Research Forum was founded in 1976 to research and analyze law enforcement agencies, in pursuit of improvements in the workforce and the ability to execute their services (Police Executive Research Forum, 2023). PERF ran a survey of its members in the years ranging from 2019–2022, examining an estimated 79,500 officers from 182 agencies throughout the U.S. (Police Executive Research Forum, 2023). The overall results of the survey displayed that law enforcement agencies "are losing officers faster than they can hire new ones" (Police Executive Research Forum, 2023). When it comes to retention, sworn resignations exhibited a 47 percent increase from 2022 to 2019 (Police Executive Research Forum, 2023). Even with recruitment seeing slight climbs, officers are retiring too early to fill agency employment needs. There is a clear parallel between military and federal law enforcement and an opportunity to learn from one another in search of increasing retention in both crucial communities. This thesis seeks to do exactly this, through the analysis of current data within the Navy Security Forces and research into similar communities facing the same issues. These findings will serve as guidance for how to enact change.

III. METHODOLOGY

This chapter gives insight into the method used to collect the data as well as the analytical techniques applied to the data and how they were used to provide recommendations to NSF's government leadership as possible solutions to the retention issues they are currently facing.

A. DESCRIPTION OF THE DATABASE

Data was collected from the Defense Manpower Data Center (DMDC), headquartered in Seaside, CA. The dataset provided by DMDC comprised of quantitative and qualitative data for both active-duty personnel and NSF civilians. The quantitative data included variables such as total number of personnel, age, years of service, salary, and aptitude test scores. The quantitative data included variables such as gender, race, education level, duty location, and prior service. Both types of data played an integral role in accurately analyzing the personnel within NSF because there are a multitude of both qualitative and quantitative variables that factor into the attrition of NSF personnel. The year range for accessible civilian data was from 2017 to 2024 and the year range for accessible active-duty data was from 2001 to 2024. Time-series data was critical to analyzing personnel trends over time within NSF.

B. DATA PROCESS

The dataset was received from DMDC as an excel file with many variables and values. The first step in working with the data was deciding which variables would be most effective in analyzing the workforce. The variables chosen were the ones mentioned in the previous paragraph. Once they were determined, the chosen variables and their respective values were uploaded into Stata, a statistical software, to "clean" the values for the chosen variables. "Cleaning" the data is essentially organizing it. This is helpful for creating data visuals in excel because the organized data can more easily integrate with excel functions than raw (uncleaned) data can. Upon cleaning the data, it was uploaded into excel where it was used to create graphs, tables, charts, and maps that help visualize trends in the data based on factors such as age, years of service, gender, duty location, salary, race, education

level, prior service, and aptitude scores over time. Visualizing the data enhances the identification of key problem areas, enabling the development of recommendations that can more effectively support NSF retention.

IV.   RESULTS

This chapter shows the findings of the data through many different visuals including charts, graphs, tables, and maps. Each visual aims at best representing the respective data. This chapter is broken into three sections by first civilian personnel data, then active-duty personnel data, and finally a comparison of the data from both active-duty and civilian personnel.

A.   CIVILIAN PERSONNEL

Table 1 shows summary statistics for 18,962 civilian NSF police officers from 2017 to 2024. There are a few pieces of data that stand out in the summary statistics above. One being that almost 92% of the civilian NSF personnel are male, leaving only roughly 8% of the force being female. Another piece of data to note is the average age of about 43 years old. This is significantly older than the average age of the active-duty personnel standing at about 28 years old. The education level is a notable variable as well, showing that for more than 50% of the force a high school education is the highest education level they have achieved. Lastly, the average salary, calculated in 2024 USD, of all civilian personnel is $61,209.

Table 1.   NSF Civilian Police Officer Summary Statistics.

	Observations	Mean	Std. Dev.	Min	Max
Male	18,962	0.917	0.277	0	1
Age	18,962	43.329	11.186	18	75
Salary	18,962	61,209	13,805	32,948	134,465
Years of Service	18,962	7.967	7.722	0	43
Prior Military Service	18,962	0.682	0.466	0	1
White	18,962	0.553	0.497	0	1
Asian	18,962	0.080	0.272	0	1
Black	18,962	0.221	0.415	0	1
Other Race	18,962	0.146	0.353	0	1
Less than High School	18,962	0.001	0.032	0	1

	Observations	Mean	Std. Dev.	Min	Max
High School	18,962	0.509	0.500	0	1
Some College	18,962	0.297	0.457	0	1
Bachelor	18,962	0.157	0.363	0	1
Beyond Bachelor	18,962	0.036	0.186	0	1

Note: Data are taken from DMDC records for all civilian NSF police officers annually from 2017 to 2024. Salary variable shown in 2024 USD.

As shown in Figure 1, California, Florida, Hawaii, Maryland, and Virginia are the five states with the highest number of NSF civilian police officers in 2024. Using this information, Table 2 was compiled, and it compares the average salary for civilian police officers in those states with the average salary for NSF civilian police officers in those states for the year 2023. It is important to note that civilian police officers in each of these states make a significantly higher salary than NSF civilian police officers do. It is possible that the NSF is struggling to retain personnel because there is a higher monetary incentive to be a civilian police officer. This is especially true in California where there is an extremely high cost of living and there is a 76% difference in salary. Notably, high risk occupations such as police officers generally have higher salaries in comparison to the general workforce. This is due to compensating wage differentials to offset for the higher risk of death or injury on the job. Other occupations such as firefighters, miners, and military personnel typically receive higher salaries due to similar compensation differentials for risk (Kniesner et al. 2015; 2024).
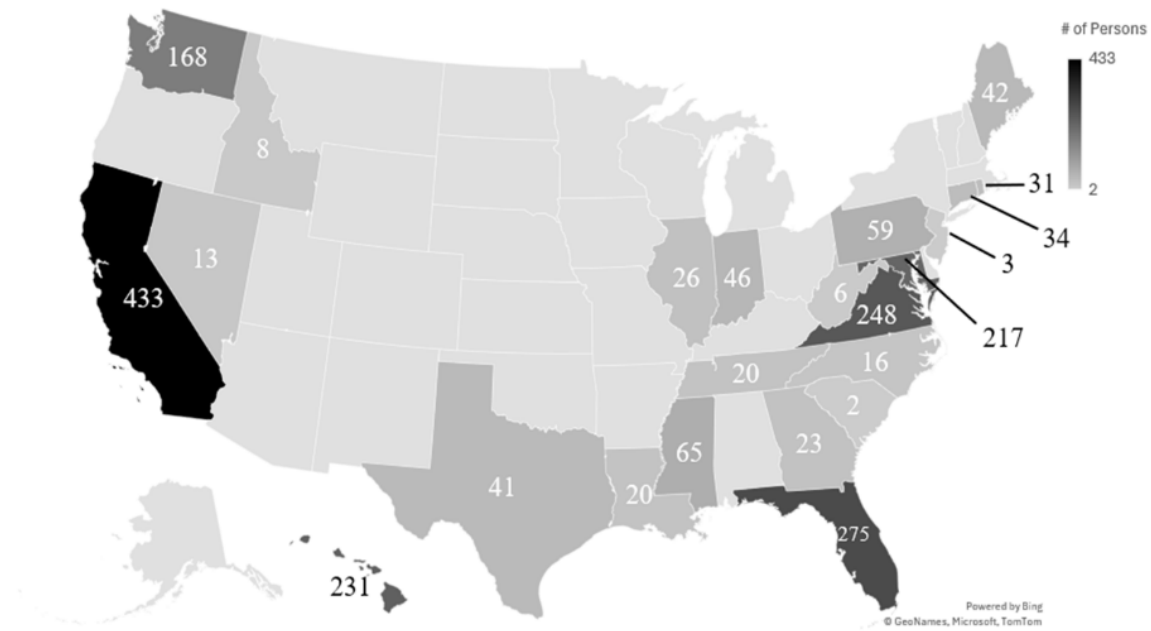
Figure 1.   2024 NSF Civilian Personnel Geographic
Concentrations

Table 2.   NSF Police Salary Differences

Panel A: National Differences				
Area	Non-NSF Police Average	NSF Police Average	Difference	% Difference
Nationwide	$76,000	$57,226	$18,774	33%
Panel B: State-wide Differences (Top five states with the most NSF police officers)				
Area	Non-NSF Police Average	NSF Police Average	Difference	% Difference
CA	$111,770	$63,686	$48,084	76%
FL	$78,480	$49,516	$28,964	58%
HI	$89,850	$58,129	$31,721	55%
MD	$76,000	$63,252	$12,748	20%
VA	$65,890	$56,794	$9,096	16%

Notes: All figures are in 2023 U.S. dollars. Non-NSF data taken from Bureau of Labor Statistics.
NSF data taken from DMDC

Figure 2 shows that a vast majority NSF civilian police officers only have less than five years in service and there is a sharp decline in personnel once the 5-year mark is achieved. It is also important to note that Figure 3 shows the highest education level

reached by most of the personnel is a high school diploma. NSF leadership may find success retaining their personnel by incentivizing them with opportunities to achieve advanced degrees.
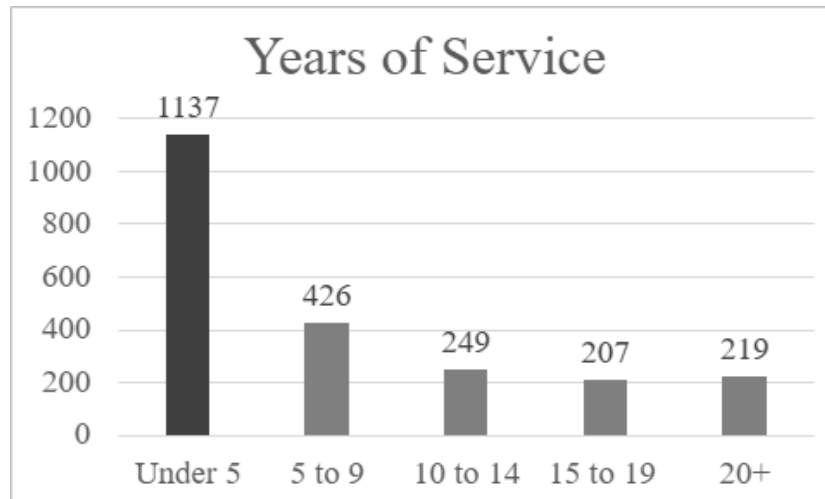

Figure 2. 2024 NSF Personnel Years of Service Distribution

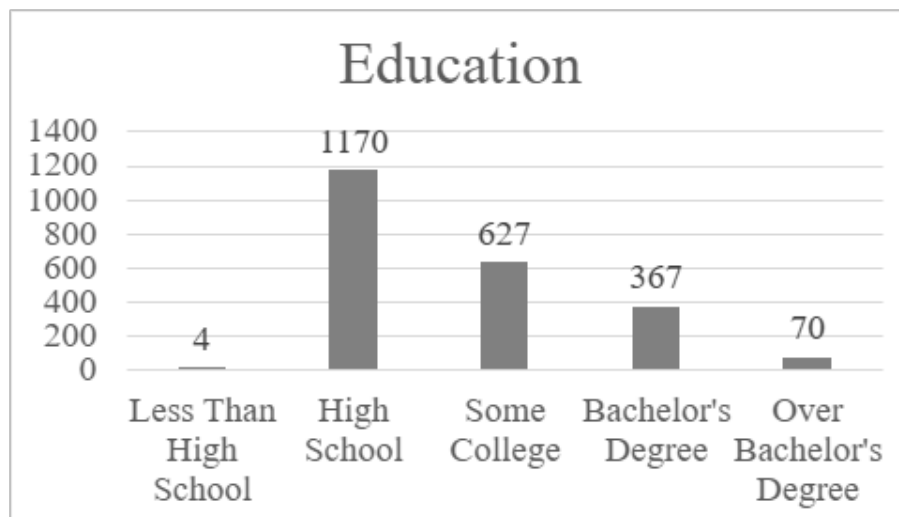Figure 3. 2024 Highest Education Level Achieved Distribution by NSF Personnel

Figure 4 highlights a notable trend: since 2017, the number of NSF personnel with prior active-duty service has declined significantly, while the number without prior service has steadily increased, soon approaching possibly an even 50/50 distribution. This suggests a potential cultural issue that may have emerged during this period, leading to a growing

dissatisfaction with employment in the DoD. As a result, many eligible personnel with prior service appear to be seeking opportunities outside of the organization they are familiar with and may no longer prefer.
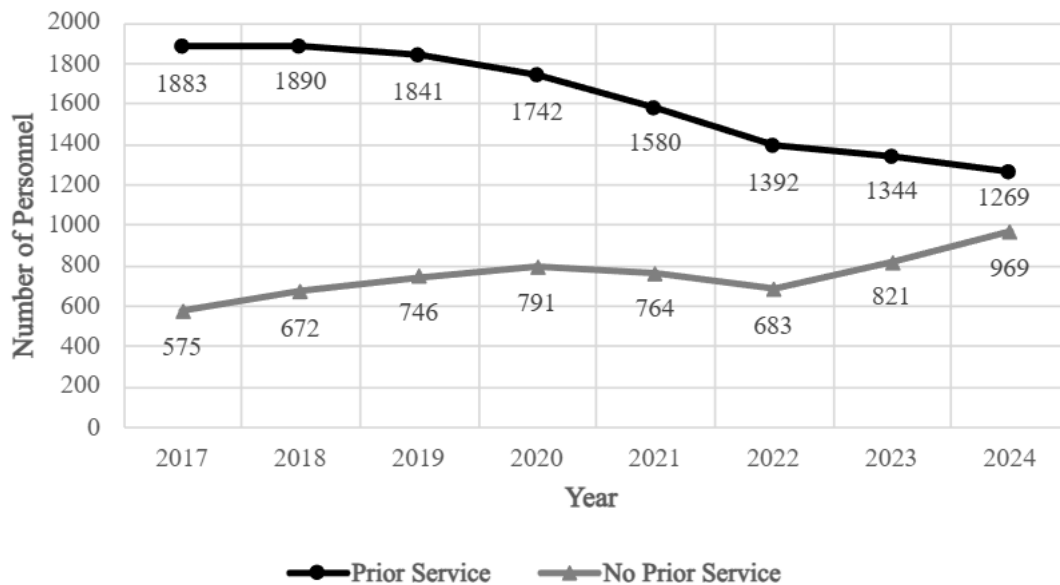

Figure 4.   NSF Civilian Personnel Prior Service Trend

B.   ACTIVE-DUTY PERSONNEL

Table 3 summarizes all the annual data received from DMDC on the active-duty MAs from 2001 to 2024 and is a great starting point for analyzing this half of the NSF and the specific challenges they may face. DMDC was able to collect data on a total of 214,167 personnel in 24 years. Similarly to the NSF civilian police officers and the rest of the DoD, there is an overwhelming difference between the total number of men versus the total number of women in the force, with about 80% of the total force in the past 24 years being male. The average age, of 27, is much lower than that of the NSF civilians. This makes sense because many MAs enlist right out of high school, which heavily contributes to this average. Looking at education, there is a similar trend to the NSF civilians with most having high school as their highest level of education achieved. However, it is a lot more dramatic on the MA side with about 83% falling under this category. Similarly to the

average age, this makes sense because many active-duty sailors enlist right out of high school rather than pursuing higher education.

Table 3.   Master-at-Arms Summary Statistics

	Observations	Mean	Std. Dev.	Min	Max
Male	214,167	0.800	0.400	0	1
Age	214,167	27.702	6.824	17	63
Years of Service	214,167	6.939	6.191	0	30
White	214,167	0.653	0.476	0	1
Asian	214,167	0.027	0.161	0	1
Black	214,167	0.180	0.384	0	1
Other Race	214,167	0.141	0.348	0	1
Less than High School	214,167	0.029	0.167	0	1
High School	214,167	0.829	0.376	0	1
Some College	214,167	0.079	0.270	0	1
Bachelor	214,167	0.051	0.220	0	1
Beyond Bachelor	214,167	0.006	0.074	0	1
E1	214,167	0.025	0.156	0	1
E2	214,167	0.052	0.223	0	1
E3	214,167	0.143	0.350	0	1
E4	214,167	0.246	0.431	0	1
E5	214,167	0.276	0.447	0	1
E6	214,167	0.168	0.374	0	1
E7	214,167	0.065	0.247	0	1
E8	214,167	0.019	0.137	0	1
E9	214,167	0.005	0.070	0	1

Notes: Data are taken from DMDC records for all Navy enlisted Master-at-Arms annually from 2001 to 2024.

Figure 5 and Figure 6 above show that in 2024, most of the MAs highest level of education was high school and that most of the MAs have less than five years in service. This highlights that most MAs are exiting the military after their initial enlistment rather

than re-enlisting. Similarly to the NSF civilians, offering more opportunities for higher education could possibly retain some MAs for another re-enlistment, which would allow the Navy to get more use out of the training they provided these sailors.
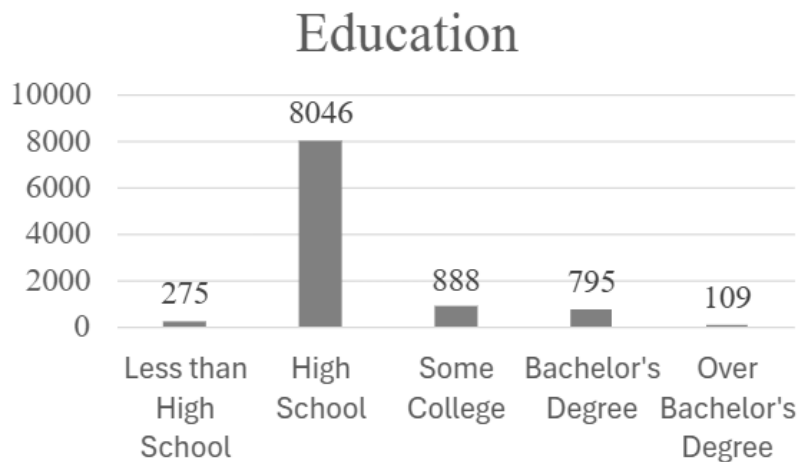
Education

Figure 5.   2024 Highest Education Level Achieved by Active-Duty MAs
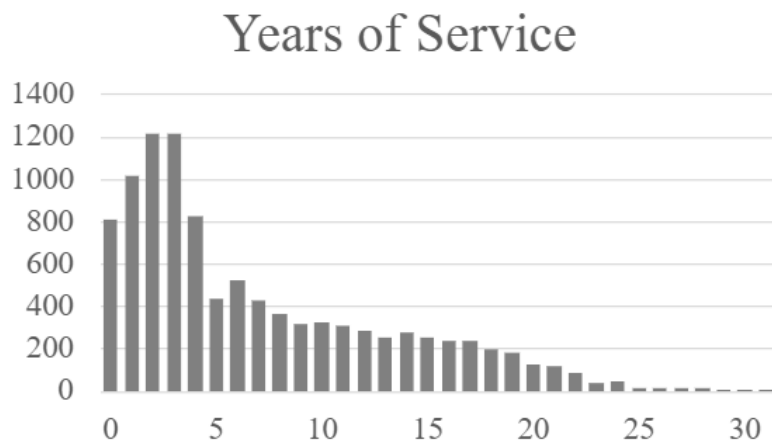
Years of Service

Figure 6.   2024 Active-Duty Years Total Years of Service Distribution

Figure 7 is particularly notable due to two distinct spikes in the number of E-3 personnel, occurring around 2010 and 2021. These spikes correspond to two to three years after major national crises—the 2008 housing market collapse and the COVID-19

pandemic, respectively—both of which caused widespread financial hardship. The timing suggests that many individuals who joined during these periods, likely motivated by economic instability, advanced to the E-3 rank by the time these spikes appeared.
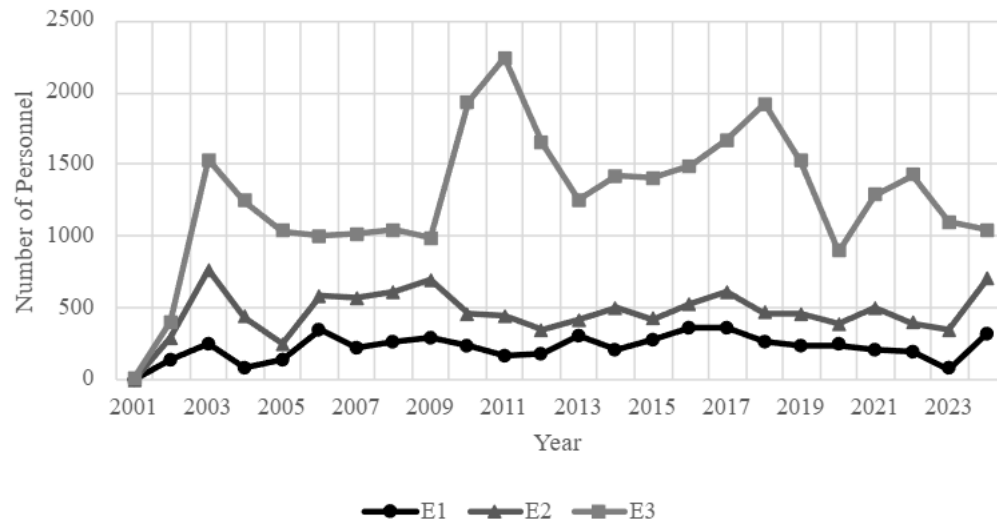

Figure 7.   Total Number of E-1 through E-3 Personnel Trend

Figure 8 depicts the concentration of MAs across the United States in 2024. The distribution aligns with expectations, as Virginia—home to Naval Station Norfolk, the largest naval installation—shows the highest concentration. California follows, supported by the numerous bases located in San Diego and surrounding areas. Washington also hosts several large bases requiring significant security presence. Florida and Texas display substantial concentrations as well, largely due to their key roles in naval aviation training.

Figure 8.   2024 Active-Duty MA Geographic Concentrations
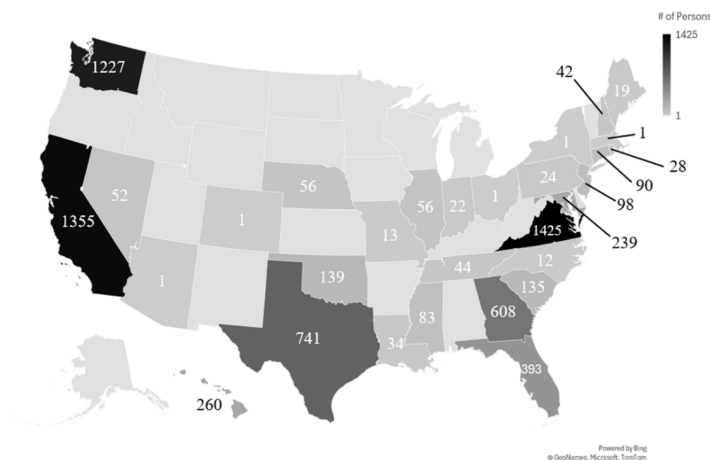
V. CONCLUSIONS AND RECOMMENDATIONS

A. NSF AT LARGE

Given the information compiled from data analytics, the Navy Security Forces have reached a point where changes must be implemented to ward off further degradation and minimization of the force. If no action is taken, the Navy Security Forces risk a sustained drop in retention. Data analysis points to three main areas of interest that impact the retention of the Navy Police Force: a significant pay disparity, specifically in areas with a high cost of living, poor long term-growth projection of new hires, and despite a more male dominated community, a stronger female retention rate relative to their representation in the population. Data analysis on the Master-at-Arms enlisted rating points to two main areas of interest that impact retention of the enlisted personnel: an increased desire for higher education and steadier retention rates for the enlisted females compared to that of the male population.

B. NAVY POLICE CONCLUSIONS AND RECOMMENDATIONS

Analysis of the data on Civilian Navy Police shows that there are significant compensation issues, leaving Navy Police at a competitive disadvantage with local law enforcement officers. It also suggests that there is a lack of long-term growth projection within the community, and possibly inefficiencies in the training and development of the individuals who make up the force. One of the most notable findings from our research was the pay disparity between the Federal Law Enforcement offices and the Navy Police department. As revealed in the results section, the national average salary for a Non-NSF Police officer in 2023 was $76,000 and the national average for a NSF police officer in 2023 was $57,226, nearly $19,000 less, a 33% difference. In the states with the highest concentration of NSF police officers—CA, FL, HI, MD, and VA— there was an average of 45% difference in pay in 2024. This implies that individuals are likely seeking law enforcement training at FLTEC, serving a minimum number of years, typically under five, as shown in Figure 2, and then looking for a career in Local Law Enforcement, where pay and pension benefits far exceed that of the Navy. To supplement the pay disparities

between NSF and local law enforcement, the Navy should investigate adopting a pay and pension system that aligns closer to that of the active-duty service members. This could include BAH allowance opportunities, pension entitlements based on years of service, and health insurance.

When it comes to the new hires in NSF, the data shows that there is an issue with underpaying new police officers, giving them the desire to seek job opportunities outside the Navy early on in their careers. This is the area that should be targeted, as early-career attrition rates appear to be on the rise, when adjusted for inflation, their salaries do not compete well with the current market. This suggests that there may be issues with the current training program. One potential solution to address the lack of intentional, military specific law enforcement training for the Navy Police is to consolidate all Military Law Enforcement training under a single command or school. Rather than sending Navy Police to FLETEC followed by supplemental department of the Navy specific training, the Military could establish a Joint Military Police training command for all civilian law enforcement personnel within the Department of Defense. This would create a more tailored training environment and offer opportunities for officers with prior military or law enforcement experience to validate courses and pursue advanced training. There could also be potential opportunities for MAs to seek training here to increase the engagement between the two departments of NSF. This seems to be a far more efficient, effective option for the Department.

In 2024, only 10% of the Navy Police Force was female. Despite this small statistic, the females tend to stay in the career pipeline longer than that of their male counterparts. From 2017 to 2024, NSF averaged retention of 197 female police officers, with no drastic increase or decreases in retention. This data begs the question: Why are the females in the Navy police force more likely to stay once they have committed to the job? It could be valuable to further research the trends that encourage women to remain in the community and explore whether any of these factors could be leveraged to help retain the male population in the force.

C.   MASTER-AT-ARMS CONCLUSIONS AND RECOMMENDATIONS

Data analysis on Master-at-Arms reveals that the majority of the force has a high school diploma as their highest education level. This presents an opportunity for the Navy to further incentivize potential education advancement in the fleet. By increasing access to recognized higher education in the fleet, the Navy could see an improvement in the retention of Mater-at-Arms personnel, a community that seems particularly interested in continuing their education.

In his research on the recruitment of Master-at-Arms sailors, LT. Stephan Munari recommended further studies, including a cost benefit analysis, to better understand the impact of education on force readiness (Munari, 2024). This continued research could also offer valuable insight into retention trends, helping to determine if more sailors would consider remaining in the service if the opportunities for higher education were expanded upon or made more accessible than they currently are. Other opportunities could include the creation of different schools' commands particularly to the specialization of tactics and response of MAs and law enforcement officers in the military. This could help the Navy to better retain a large chunk of mid-career sailors.

When it comes to gender variations, the data shows that from 2003 to 2023 the number of female personnel in the community was between 1000 and 2400. The male personal fluctuated between 6000 and 8000 personnel, slightly more varied than that of their female counterparts. This suggests that women who become Master-at-Arms tend to stick with their career choice more than men, despite a significantly smaller population size. Similarly to the analysis of the Civilian Navy Police, why are women easier to retain in this community than men? There is an opportunity for further studies with more concentrated data to supplement this research.

GENERATIVE AI STATEMENT

This paper utilized AI for grammar revision and organization of the List of References. This was then verified and edited manually (ChatGPT, personal communication, April 14, 2025).

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