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**A MODEL MIDSHIPMAN: FACTORS RELATED TO  
ACADEMIC AND MILITARY SUCCESS OF PRIOR  
ENLISTED MIDSHIPMEN AT THE UNITED STATES  
NAVAL ACADEMY**

by

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June 2005

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MILITARY SUCCESS OF PRIOR ENLISTED MIDSHIPMEN AT THE UNITED  
STATES NAVAL ACADEMY**

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## **ABSTRACT**

This research analyzes performance at the U.S. Naval Academy (USNA) and attrition of Midshipmen who have prior-enlisted experience in the Navy and Marine Corps. The primary hypothesis of this study is that the experience gained by enlisted service members provides them with valuable tools and training that helps them overcome perceived academic deficiencies to be successful at the Naval Academy. Linear and Bi-Linear regression models are used to analyze the influence of prior-enlisted experience on academic and military performance at the Naval Academy on the classes from 1999 through 2004. Results show that while prior-enlisted arrive at the Naval Academy with lower academic standings in high-school and lower SAT scores when compared to direct-entry Midshipmen, they still perform at a higher level than direct-entry Midshipmen in the areas of academic and military rankings when compared to a direct-entry Midshipmen with similar academic backgrounds. The study also finds that while prior-enlisted and direct-entry Midshipmen attrite at nearly the same rate from the Naval Academy, the reasons for attrition are quite different, showing that their background in the military has changed their perspectives in some way.

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# I. INTRODUCTION

## A. BACKGROUND

Seven percent of the class of 2008 at the United States Naval Academy is composed of prior-enlisted service members from the Army, Navy, Marine Corps, and the Army National Guard<sup>1</sup>. These candidates have had an opportunity to develop an understanding of the military culture and way of life by undergoing training and indoctrination programs as well as having had real-life experiences working within the military organization. There are other opportunities available for many non-prior applicants to experience aspects of the military way of life, whether that is through junior ROTC, previous attendance at military high schools, or by growing up in a military family. These opportunities have the potential to give candidates an understanding of what is required of a soldier or sailor as well as what it may mean to serve, but even these experiences differ from those experiences of the prior-enlisted applicants to the Naval Academy.

This study examines some of the possible changes that can occur in prior-enlisted Midshipmen during their time in the enlisted ranks of the armed forces. In turn, this study explores how these changes have an impact on their performance at the Naval Academy, with emphasis placed on exploring performance in leadership roles as well as in the classroom. Prior-enlisted Midshipmen are a distinct subset in the Naval Academy. They stand out whether through their age, their stories, or even through the ribbons on their chest. From their first day at the Academy, they are identified by the Midshipmen upper classmen who are in charge of the indoctrination period of Plebe Summer. Prior-enlisted are immediately tasked with helping their classmates with the transition that all Midshipmen undergo during Plebe Summer from a civilian lifestyle to a military lifestyle. Whether their fleet experience will provide any further benefits to these Midshipmen during their time at the Naval Academy is the focus of this study.

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<sup>1</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 2, 2005 from <http://www.usna.edu>

This study is a follow-on project to a previous research project by Keith Mishoe.<sup>2</sup> Mishoe's study examined prior-enlisted officer retention to the ten-year point of their career, compared to that of the Midshipmen who entered the Naval Academy directly from high school or college (direct-entry), as well as differences in performance between prior-enlisted and direct-entry officers. This study re-examines the question of differences in academic and military performance between direct-entry and prior-enlisted Midshipmen at the Naval Academy and attempts to understand the source of any differences between the two groups.

Prior-enlisted Midshipmen have had the opportunity to develop skills and an insight into what service in the armed forces truly means. They have had an opportunity to begin forming a commitment to the military and are exhibiting this commitment by taking action to continue their service by applying to the Naval Academy. Those who are accepted are those who have exhibited signs of excellence in their current fields, and have earned the right to the career-building opportunity that is the Naval Academy.<sup>3</sup> Through the skills and lessons they have learned during their enlisted service, there may be measurable differences in their academic and military performance while at the Naval Academy when compared against their direct-entry classmates. This study also attempts to isolate the experience by controlling for other outside influences on performance of Midshipmen at the Naval Academy, for example, the Midshipman's gender, race, and high school performance.

The commitment that prior-enlisted applicants have already demonstrated through their uniformed service is a large part of what the Naval Academy is searching for in all of its applicants. The desire for committed service members is reflected in the mission statement itself: "To develop Midshipmen morally, mentally and physically and to imbue them with the highest ideals of duty, honor and loyalty in order to provide graduates who are dedicated to a career of Naval service and have potential for future

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<sup>2</sup> Mishoe, K. (2000) An Analysis of the Effects of Prior Enlisted Service on Midshipman Performance, Graduation, and Fleet Retention at the U.S. Naval Academy. Master's Thesis, Naval Postgraduate School, Monterey, CA.

<sup>3</sup> McNally, Stephen, J. (Winter, 2004) What Should I Be When I Grow Up? Developing a Strategic Career Plan. *Pennsylvania CPA Journal*, 23.

development in mind and character to assume the highest responsibilities of command, citizenship and government”<sup>4</sup>. The experience and knowledge they have gained in their fleet service may provide them with a potential benefit when looking to complete the challenge set forth in the Academy’s mission statement. If this proves to be true, then this would be a very beneficial finding for the Admissions Board to consider. Given that the average cost of producing an officer through the Naval Academy is roughly \$250,000, it is imperative that every candidate who is admitted to the Academy have a chance for success as well as a chance to reach the graduation milestone <sup>5</sup>

## **B. AREAS OF RESEARCH**

### **1. Military Performance**

Through their path to commissioning, prior-enlisted have had the opportunity to develop certain leadership skills that may have been hard to replicate in the direct-input Midshipmen’s backgrounds. They have also been given training in the areas related to their enlisted rating that direct-input Midshipmen are not offered. These differences in preparation for their time in the Naval Academy may have an impact on their military performance while attending the Naval Academy. Specifically, there may be a large impact in their military performance at the end of plebe year. Plebe year is often thought of as the most difficult year for Midshipmen, due to the adjustments that must be made as a college student as well as a military member. During this initial adjustment phase, prior-enlisted may show to be quicker to adapt to the military setting than their direct-entry classmates. Under this assumption, this study looks at that first year specifically to see how well prior-enlisted do with regards to military and academic performance. Subsequently, a review of the Midshipmen’s performance at the completion of their four years at the Academy will be completed, to see if the impact of prior service is still noticeable among the prior-enlisted students.

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<sup>4</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 2, 2005 from <http://www.usna.edu>

<sup>5</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 7, 2005, from <http://www.usna-net.org/handbook/summer.html>.

## **2. Leadership**

This study also looks at the likelihood that prior-enlisted Midshipmen have of attaining leadership positions (i.e., becoming “Stripers”) within the brigade of Midshipmen compared to the number of direct-input Midshipmen who become Stripers. This allows us to examine whether there are any relationships between prior-enlisted service and attaining a leadership billet while at the Naval Academy. When examining the Midshipmen that become Stripers, the study controls for other factors such as gender, ethnicity, and academics, to see if having served as a prior-enlisted is a positive influence when it comes time to select the leaders among the Brigade of Midshipmen

## **3. Academic Performance**

One area where the backgrounds of the prior-enlisted Midshipmen could be a hindrance is in the academic challenges present at the Naval Academy. Prior-enlisted Midshipmen must undergo the same admissions process as direct-input Midshipmen including, for example, a review of their Scholastic Aptitude Test (SAT) scores and high school grades. However, one of the potential problems they face is that they have been away from high school from one to five years. This absence from a structured, formalized educational environment has the potential to negatively affect their performance in the classroom at the Naval Academy.

Some prior-enlisted Midshipmen will have come directly from some of the Navy’s top training commands, such as nuclear power school, or other highly technical training schools. While these are still very structured and organized learning environments, they do not provide the well-rounded education that may be best suited for the transition to the college curriculum that they will experience once they begin their classes at the Academy. This study evaluates the academic readiness of the incoming prior-enlisted Midshipmen by comparing their academic standings upon entry to those of the direct-input Midshipmen. This study also examines the prior-enlisted Midshipmen’s academic performance at the time of graduation and compares that to the academic performance of direct-input Midshipmen.

#### **4. Attrition at the Naval Academy**

Another focus of this study is attrition from the Naval Academy. There are clear differences between prior and non-prior Midshipmen's backgrounds; this study examines any discernable differences in the reasons for attrition from the Naval Academy between the two groups. A loss of a Midshipman is a loss to the military in both time and money invested up to the point of separation. This study analyzes attrition among the prior-enlisted Midshipman as a function of the screening processes of the Admissions Board. Can these losses be averted with higher admissions standards or by increasing the attendance of prior-enlisted Midshipmen at the Naval Academy Prep School (NAPS)? Another reason that attrition must be looked at is the average age of prior-enlisted Midshipmen is higher than that of the direct entry Midshipmen. While some of the direct-entry Midshipmen may have spent time in the work force or college before attending USNA, the age difference, on average, could be a factor in the reasons for their attrition based on the assumed differences in maturity level between the younger direct-input Midshipmen and the older prior-enlisted Midshipmen.

### **C. SCOPE AND RESEARCH QUESTIONS**

#### **1. Scope**

The scope of this research is limited to five years of data on Midshipmen at the Naval Academy between 1999 and 2004. There are 7222 Midshipmen within the data set, and 528 of the total are prior-enlisted Midshipmen. This study focuses on data collected by the Admissions Department of the Naval Academy on incoming students as well as their academic and military performance during their four years at the Naval Academy. This study examines Midshipmen only while they are at the Naval Academy. All measures are those that the Academy uses to rank their students in both academic and military measures.

## 2. Research Questions

1) Is there a difference between prior-enlisted and direct-entry Midshipmen's academic and military performance while at the Naval Academy? The hypothesis of this study is that prior-enlisted Midshipmen have different academic and leadership backgrounds than direct-input Midshipmen, and that these differences are associated with differences in academic and military performance at the Naval Academy. This is important to study to see if the findings that Mishoe discovered in 2000 are still relevant today. This question will allow this study to see how the newest recruits in the armed services are performing at the Naval Academy now that their focus and direction has become clearer as our military continues to combat the war on terror.<sup>6</sup>

2) Are different standards of academic readiness used for admissions for prior-enlisted Midshipmen who apply directly from the fleet as compared to direct entry applicants who entered from high school? This question explores how the admissions process reviews and scores an applicant for admission. If findings show that there are lower values for the measurable data pertaining to academics in prior-enlisted, what other data are used to counter that shortcoming in academics to raise a prior-enlisted applicant's overall score when competing with direct-input applicants?

3) Do prior-enlisted Midshipmen attain leadership billets while at the Naval Academy at a higher rate than direct-input Midshipmen and, if so, can this finding be used to show that the prior-enlisted service played a positive role in their attaining these leadership billets? This question addresses how much the fleet experience they have gained is able to assist them in the leadership laboratory of the Academy. Does fleet experience give these Midshipmen an advantage throughout their four years at the Academy in achieving leadership roles among the Brigade?

4) What are the major causes of attrition of prior-enlisted Midshipmen at the Naval Academy, and can these losses be lessened through improved admissions screening? Are these causes for loss noticeably different for prior-enlisted Midshipmen when compared to direct-input Midshipmen? Is the Naval Academy finding that prior-

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<sup>6</sup> 10 Steps to joining the military. (2005). Military.com. Retrieved March 7, 2005, from [http://www.military.com/Recruiting/Content/0,13898,rec\\_step02\\_reasons,,00.html](http://www.military.com/Recruiting/Content/0,13898,rec_step02_reasons,,00.html)

enlisted are showing a higher rate of graduating than their direct-entry classmates? These questions examine the causes of attrition of prior-enlisted, exploring whether their perceived academic shortcomings lead to academic separation, or if they depart due to some difficulty adapting to the regimented lifestyle within the Brigade. It is possible that the time a prior-enlisted spent within the fleet may have given them an understanding of the military way of life, but that the freedom and independence they experienced may also make it more difficult to accept the rules and regulations imposed on all aspects of their lives while at the Naval Academy.<sup>7</sup>

5) Is there any improvement of graduation rate of prior-enlisted Midshipmen who attend NAPS as compared to those who enter directly from the fleet? Some of the prior-enlisted and a select few of the direct-input Midshipmen must first go to the Naval Academy Preparatory School. The time here allows them to undergo a gradual indoctrination to the strict lifestyle of a Midshipman as well as giving them an opportunity to strengthen their academic background prior to starting college. Is the prep school providing these prior-enlisted Midshipmen an advantage that some are not offered and, if so, is the Academy missing an opportunity to improve the performance of an even larger number of prior-enlisted Midshipmen by not requiring them to attend a prep school program?

#### **D. ORGANIZATION OF THE STUDY**

This thesis is divided into five chapters. The following chapter is a review of literature dealing with research on adults in education environments, and development that can occur outside of the classroom that may lead to students performing at a higher level when placed within a classroom. This development will be within areas that have the potential to impact their performance while in the classrooms of the Naval Academy as well their performance as members of the Brigade of Midshipmen. In addition, the next chapter also discusses the admissions process at the Naval Academy and what makes an applicant someone who the Academy invites to join the Brigade. Chapter III

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<sup>7</sup> Pitkethly, Anne, Prosser, Michael. (2001) The First Year Experience Project: a model for university-wide change. *Higher Education Research & Development*, Vol. 20, No. 2.

describes the methodology of this research, as well as the performance measures that are used for the study. Furthermore, Chapter III explains the creation of the models used for the study and reviews the statistical findings. Finally, Chapter IV discusses conclusions of the findings, examining the success and failures of prior-enlisted at the Naval Academy. Ideas for further research are also presented within the final chapter.

## II. LITERATURE REVIEW

### A. INTRODUCTION

This research focuses on prior-enlisted Midshipmen and their performance at the United States Naval Academy. This chapter examines the perceived deficiencies that they may experience with regards to academic preparation for the college environment, as well as the possible military benefits they may have gained during their time spent within the enlisted ranks of the armed forces. In addition to their performance while at the Naval Academy, this research also investigates the attrition of prior-enlisted Midshipmen at the Naval Academy and attempts to understand if they attrite at the same rate and for many of the same reasons as the direct-entry Midshipmen.

It would seem intuitively obvious that there would be differences between students who enter college directly from high school and those who work after high school and then enter college some time later. An older study conducted by Leppel in 1984 articulated this basic argument<sup>8</sup>.

In 1984, Leppel investigated whether or not older students returning to college performed better than direct-entry students. Leppel found support for this generalization, which she believed was due to several factors. First, she suggested a different self-selection among the students. The older students are in college by their own choice, whereas some direct-entry students may be in college because their parents expect them to be or because it is what is expected for them to do after they complete high-school. Second, she believes that the returning students have a greater opportunity to see the advantage that comes from having a higher education degree. Through their previous employment, they are able to see directly what outcomes they may expect upon attaining a degree when they return to the workforce. She also believes that returning students gain some advantage from having experienced the “real-world” where they have had the opportunity to develop skills that can aid their academic endeavors.

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<sup>8</sup> Leppel, Karen. (1984, Winter) The Academic Performance of Returning and Continuing College Students: An Economic Analysis. *The Journal of Economic Education*, 46-53.

One area of note in Leppel's study was the attitude of returning students compared to continuing students and how that affected their grade point averages (GPA). She measured attitude by looking at the support groups of students, in particular family and friends. She found that within continuing students, there was little to no effect on GPA, regardless of their attitude scores. For returning students, she found that those with less supportive friends and family achieved higher GPAs than those with more supportive friends and family. She interprets this as showing that internal motivation is stronger than external motivation, and that returning students showed more signs of internal motivation than continuing students.

Another study, conducted by Mishoe in 2000, specifically addressed these differences between prior-enlisted and direct-entry students coming to the Naval Academy. Mishoe explored the value of the Whole Person Multiple, the overall scoring system used by the Admissions Board to evaluate applicants and select those who are invited to become Midshipmen. Mishoe found that this multiple was weighted heavily towards academics, primarily the SAT scores and High School performance. His regression model demonstrated a positive correlation between academic and military performance of Midshipmen at the Naval Academy. Mishoe believed that the emphasis on academic background may have been a disadvantage for the prior-enlisted applicants, since many of them do not have the same strong high school backgrounds, nor the same high SAT math and verbal scores as direct-entry Midshipmen. Showing that there was a positive relationship between enlisted service and military and academic success while at the Naval Academy leads to Mishoe's conclusion that there is merit in placing more emphasis on the value of prior-enlisted performance when evaluating applicants for admissions.

Mishoe showed through his study that prior-enlisted Midshipmen graduate at a higher rate than direct-entry Midshipmen and are also selected as Stripers within the Brigade at a higher rate. These findings were all contrary to Mishoe's hypothesis that prior-enlisted may be at a disadvantage when compared to direct-entry Midshipmen due to their time away from a classroom environment and their lower SAT and high school scores. He believed the enculturation the prior-enlisted Midshipmen experienced through

service within the military prior to arriving at the Naval Academy, may have been the cause of his findings. Other similarities and differences between the two groups are examined throughout this chapter.

The first part of this chapter examines the application process at the Naval Academy, with a review of the process one goes through from submission of the application package to the offer to become a Midshipman at the Naval Academy. A review of recent entry data at the Naval Academy is conducted to discover the differences that are apparent to the Admissions Board when they are considering potential candidates.

The second part of the chapter focuses on the types of individuals attending the Service Academies, and those who are entering the enlisted services. This will be followed by a review of the potential strengths that prior-enlisted Midshipmen may have developed due to their enlisted service and development.

Finally, this chapter examines attrition in secondary education. This section explores some of the reasons students, both prior-enlisted and direct-entry Midshipmen, attrite. In addition to understanding the reason why these students attrite, a review of attrition in other academic environments is conducted to understand what other campuses have found when studying attrition and searching for ways in which to minimize it. Attrition is especially important for the Naval Academy, because these Midshipmen are soon to make up a large portion of the officer Corps of the military, and the Admissions Office wants to ensure that all those that enter the Naval Academy have the highest chance of success while at the Naval Academy.

## **B. APPLICATION PROCESS**

For an applicant to the Naval Academy to be considered a candidate for selection, the Admissions Board must receive an application packet from that candidate. Upon receipt of the initial application packet, the Admissions Office conducts an initial review of all data and creates a “mini-multiple” for that candidate. This score is based on college entrance exam scores (SAT, ACT), and their high school ranking. This mini-multiple is often used for early selection candidates, such as those that are looked at

during the first stages of class selection.<sup>9</sup> Some applicants who do not meet the criteria for candidate status based solely on their college entrance exam scores and high school class rankings may also be placed on the candidate list due to other significant factors that the Naval Academy believes show signs of academic success or leadership potential. These factors include fleet enlisted performance and recommendations, minority status, athletic achievement, college grades, or unusual and diverse life experiences. Regardless of these extra factors, the primary factors considered are still rank and high school or college entrance exam scores.

Recently, this process of creating candidates who do not meet candidate status based solely on academic readiness has been questioned by a member of the Naval Academy Admissions Boards. Professor Bruce Fleming recently discussed the admissions process of the Naval Academy. Fleming claims that Naval Academy graduates, unlike many civilian graduates, will have the potential to one day have their fingers on the buttons and triggers of war. Knowing this, he says that the Naval Academy should demand only the highest quality students possible and provide them with the best education possible. He says that under the current system, the Naval Academy is doing neither<sup>10</sup>. Those applicants who do not meet the initial criteria for candidate status are called set asides. These are students with lower college entrance exam scores than the Naval Academy's published minimums. These students can often be coaxed to pass classes, but only through extreme motivation and extra instruction on the part of the student and professor. Professor Fleming claims that these students slow down class discussions and take seats from applicants who would be better suited for the classroom environment. These set asides he describes usually fall under three categories: racial minorities, blue-chip athletes, and prior-enlisted. He says that by admitting these students, the Naval Academy is taking a chance on their ability to handle the academic loads put on them during their undergraduate course work as well as taking seats that

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<sup>9</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 3, 2005 from <http://www.usna.edu>

<sup>10</sup> Fleming, Bruce. (2005, February). The Academy Can Do Better. *Proceedings*, 88.

could have gone to more academically qualified applicants.<sup>11</sup> So how does the Naval Academy admissions program prioritize these candidates with less than acceptable multiple scores?

Candidates that the Naval Academy considers for admission have their application package reviewed by the entire Admissions Board through a briefing procedure. One member will brief the entire board on an applicant and then the record will be discussed openly for review. This board will consider whether that candidate is qualified or not qualified for admissions to the Naval Academy. Their initial Whole Person Multiple score (WPM) consists of their SAT/ACT scores, high school class rank, math and English teacher recommendations, and athletic and non-athletic extra curricular activities (ECAs). In addition, the briefing member will also include the student's high school profile, academic transcripts, recommendations of counselors and others, the results of field interviews conducted by Naval Academy Information Officers (Blue and Gold Officers), results of the Physical Aptitude Examination (PAE), Summer Seminar evaluations, and a personal statement written by the candidate. Adjustments to the candidate's WPM may then be made based on this briefing by the Admissions Board.

These adjustments to the WPM often come through recommendation of the Admissions Board (RAB). These are points authorized by the Superintendent of the Naval Academy that the Admissions Board may award to candidates if their compound multiple does not accurately reflect potential and motivation to succeed in a career in the Naval Service.

When candidates' WPM still falls short of the criteria for direct admissions, the Admissions Board may still recommend those candidates attend either a Foundation school or the Naval Academy Preparatory School (NAPS). A Foundation school is "a preparatory program for qualified students who exhibit a high level of leadership and motivation, but who would not otherwise receive a nomination due to their competition in their districts." The candidate can then gain entrance to the Naval Academy through a positive recommendation by the Admissions Board after a review of the student's

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<sup>11</sup> Fleming, Bruce. (2005, February). The Academy Can Do Better. *Proceedings*, 88.

performance at the Foundation school.<sup>12</sup> The purpose of the Foundation program is changing at the current time, becoming a program that's function is to increase academic readiness for candidates who show potential, but are still not ready to attend college at the Naval Academy.

NAPS is another delayed-entry path into the Naval Academy that many prior-enlisted candidates attend. NAPS' mission is "to prepare individuals exhibiting leadership and academic potential for admission to the Academy after successfully completing an intensive, one-year program of academic, physical, and professional development with entrance to the Naval Academy assured for any candidate who successfully completes this rigorous program and receives the recommendation of the NAPS commanding officer."<sup>13</sup> There are 270 slots available at NAPS for students who meet the profile of lower SAT scores (below 1200 combined) or lower GPA scores in math, chemistry, and English courses. While high school and college students are admitted to NAPS, approximately one third of the NAPS classes are composed of prior-enlisted personnel who are brought to NAPS to strengthen their academic background prior to entering the Naval Academy.

The Naval Academy actively seeks out qualified enlisted members, providing them with an outstanding opportunity to embark on careers as Navy or Marine Officers. The Naval Academy allots 170 Secretary of the Navy appointments for prior-enlisted members to compete for in each incoming class. This allows them to gain a nomination from the Secretary of the Navy instead of having to compete for a Congressional nomination from their home towns. While there are 170 nominations available for prior-enlisted candidates, rarely do they fill all 170 positions. Chief Electronics Technician Ephriam Maxwell, the person who assists with prior-enlisted applicants in the Naval Academy Admissions office, said that the Naval Academy receives nearly 500 applications from enlisted personnel, but many fail to meet the academic minimums put

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<sup>12</sup> U.S. Naval Academy. (2004) United States Naval Academy Internet Site. Retrieved March 7, 2005 from <http://www.usna.edu>

<sup>13</sup> U.S. Naval Academy. (2004) United States Naval Academy Internet Site. Retrieved March 8, 2005 from <http://www.usna.edu>

in place to assure competitiveness upon arrival at the Naval Academy. In order to compete for one of the Secretary of the Navy nominations, the enlisted member must have a commanding officer's recommendation and a combined SAT score of 1050 as a minimum. While this score will allow candidates to be considered for an appointment to the Naval Academy, this is a minimum score, and will place them in contention for a position at NAPS. In addition to a commanding officer recommendation, they must attain recommendations from two senior personnel in the navy, either an E-7 or above enlisted personnel or O-3 or above commissioned officer. Each applicant who has an application packet reviewed by the Admissions Board is automatically considered for NAPS entry as well as for direct-entry to the Naval Academy. The candidate's leadership potential and academic background are reviewed as well as evidence of motivation.<sup>14</sup>

For the classes of 1999-2004, a look at the various feeder sources to the Naval Academy show a difference in academic backgrounds for the various groups. Table 1 shows a breakdown of the different backgrounds of Midshipmen at the Naval Academy and their SAT scores they arrived with.

**Table 1.** Midshipmen SAT scores as a Function of Entry Source (N=7222)

	Total	Percent	SAT Verbal	SAT Math
All Non Prior-Enlisted	6694	92.7	636	663
Direct Entry Civilians	5492	76	647	675
NAPS Not Prior-Enlisted	769	10.6	565	586
Foundation Students	433	6	624	649
All Prior-Enlisted	528	7.3	615	636
NAPS Prior-Enlisted	308	4.3	602	620
Direct Entry Prior-Enlisted Non NPS	106	1.5	636	663
Direct Entry Prior-Enlisted NPS	92	1.3	637	662
BOOST Prior-Enlisted	22	0.3	605	625

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<sup>14</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 7, 2005, from [http://www.usna.edu/KMAF/docs/USNA\\_Info\\_Program\\_Handbook\\_2003.htm](http://www.usna.edu/KMAF/docs/USNA_Info_Program_Handbook_2003.htm)

The table shows that direct-entry Midshipmen come to the Naval Academy with the highest SAT scores, although prior-enlisted from the Fleet and from the Navy Nuclear Power School have a SAT score very close to that of the direct-entry civilians.

In looking at all those that apply to the Naval Academy, it is hard to generalize an applicant due to the wide variety of admissions sources and the geographic spread of the applicants. When the Naval Academy tries to describe the Midshipmen who attend the Academy, they say “They like the idea of being challenged mentally, physically and personally. They are people who don't want to settle for the ordinary, the routine or the easy”.<sup>15</sup>

### **C. WHO JOINS THE MILITARY AND THE SERVICE ACADEMIES?**

While there may be differences between prior-enlisted and direct-entry Midshipmen in regards to their backgrounds and motivations for coming to the Naval Academy, these differences may not be that large. People entering a service academy and those entering boot camp are both beginning a path that will lead to service for their country, and placing themselves in a very structured institution with a long and distinguished history. Both groups share many of the same values and ideals, even though both are beginning two distinctly different paths in life. While a Midshipman and a new recruit at boot camp may share similar values, Midshipmen and civilian college students do not always share the same values and ideals.

In a study done in 1982, it was found that individuals who applied to the service academies were different from their civilian counterparts in a variety of areas<sup>16</sup>. Incoming cadets at the Air Force Academy were found to have higher needs for achievement, affiliation, cognitive structure, dominance, endurance, exhibition, and order than their civilian counterparts. It would not be difficult to find individuals going to boot camp who were showing the same drives and traits, even though their career path in the

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<sup>15</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 5, 2005 from <http://www.usna.edu>

<sup>16</sup> Hughes, Richard L. (1982, August). *Who Goes to the Service Academies?* Paper presented for the Annual Meeting of the American Psychological Association, Washington, DC.

military is starting out in a much different manner than a Cadet's or Midshipman's career.<sup>17</sup>

When looking at individuals who are entering the Service Academies and those who are entering boot camp, there are some similarities that are evident. Members of both groups are willing to make some sacrifices in their lives for a perceived greater good, they both exhibit a love of country and dedication to service and both groups seek out challenges in their lives.<sup>18</sup> If both groups are composed of people with similar motives and behaviors, how can having prior-enlisted service experience affect Midshipmen at the Naval Academy? Do prior-enlisted Midshipmen change significantly during their enlisted time period? If they are indeed found to act and perform differently than direct-input Midshipmen, what would be the cause?

Enlisted service members begin their time in the Navy and Marine Corps boot camps. At the Navy's Recruit Training Center in Great Lakes, the newest recruit will undergo a change in living, discipline, responsibility, and mental and physical makeup. These newest recruits will also begin to learn the Navy's core values of honor, courage, and commitment. Through all of this hectic training, enlisted members are not only learning the history of the service and how to function within its structure, but also how that structure operates; including the chain of command and the roles and responsibilities of those above and below them. Learning all of these things may be expanding their horizons, but how can it be something that will help them when they enter the Naval Academy? Many of these lessons will be re-taught to them as Plebes during their Plebe Summer training.

Upon arrival at the Naval Academy, all Midshipmen must undergo the rigorous indoctrination known as Plebe Summer. The Naval Academy admissions website discusses what the summer will be like for the newest members of the Naval Academy:

Plebe Summer, is a period designed to turn civilians into Midshipmen. Plebe Summer is no gentle easing into the military routine. Soon after

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<sup>17</sup> 10 Steps to joining the military. (2005). Military.com. Retrieved March 7, 2005, from [http://www.military.com/Recruiting/Content/0,13898,rec\\_step02\\_reasons,,00.html](http://www.military.com/Recruiting/Content/0,13898,rec_step02_reasons,,00.html)

<sup>18</sup> U.S. Navy Internet Site. (2005). Retrieved March 7, 2005 from <http://www.Navy.com/yvr/aboutyou>

entering the gate on indoctrination day, you are put into a uniform and taught how to salute by the first class Midshipmen and officers who lead the Plebe indoctrination program. For the next seven weeks, you start your day at dawn....and end them long after sunset, wondering how you will make it through the next day.<sup>19</sup>

The Naval Academy does not try to soft sell this period of the Midshipman life. The Naval Academy wants its applicants to understand the difficult task ahead of them upon arrival, and the Naval Academy goes on to explain the purpose of this summer on their Web page. Plebe Summer is intended to turn civilians into Midshipmen. During this initial training period, there are opportunities for the prior-enlisted Midshipmen to begin to show how they are different from the Midshipmen who came to the Naval Academy directly from high school or from some other civilian institutions, that is, the direct-entry Midshipmen. According to the instruction of Plebe Summer, a lot of changes are expected to occur among the incoming class during the six-week indoctrination period.

A midshipman indoctrinated to USNA who is trained in basic military skills and is prepared to join the Brigade of Midshipmen. A midshipman who understands the unique military environment of the Naval Service and has a sense of the higher obligations associated with serving as a military officer. The transition process should emphasize the human factors of fatigue, emotional and physical crisis. To accomplish these goals, training should provide a physical training foundation with a focus on combat conditioning. We will provide a physical challenge and sense of competition that fosters leadership, teamwork, character and a passion for "winning." Training events throughout the summer provide those involved an appreciation of and a respect for the selfless service and excellence that are the heritage of the Naval Service.<sup>20</sup>

The summer indoctrination period is an important step in the transformation that the Superintendent of the Naval Academy expects to occur over the four years that the Midshipmen are at the Naval Academy. According to the Superintendent's strategic

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<sup>19</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 18, 2005, from <http://www.usna.edu>

<sup>20</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 7, 2005, from <http://www.usna.edu>

plan, he believes that the graduates of the Naval Academy are ready to enter the fleet with specific skills and understandings:

- Prepared to lead in combat.
- Are courageous leaders who take responsibility for their personal and professional decisions and actions.
- Officers that are role models of ethical behavior and moral conduct.
- Exemplars of academic, technical and tactical competence.
- Individuals with a passion and commitment to lifelong learning and physical fitness.
- Highly effective communicators.
- Leaders who recognize and value individual excellence regardless of gender or cultural and ethnic background.
- Able to understand and integrate geopolitical complexities in their decision making across the spectrum of military operations.
- Patriots who epitomize the rich heritage, honor and traditions of the Navy, Marine Corps, and our country.<sup>21</sup>

The Midshipmen who will oversee the developments of the incoming class of Plebes are referred to as Detailers. During the training that all Detailers must undergo prior to assuming responsibilities of the incoming Plebes, the Detailers are informed that there will be prior-enlisted Midshipmen entering alongside direct-entry Midshipmen. It may be hypothesized that the Detailers realize that prior-enlisted Midshipmen are different from their civilian counterparts, and they will use them in different manners than those direct-entry Plebes due to their own interaction with their own prior-enlisted classmates. While the goal of Plebe Summer is to transition the civilian into a Midshipman, many aspects of being a Midshipman are the same as those aspects of being an enlisted Sailor or Marine. These Midshipmen must learn how to salute; they must learn the chain of command, as well as many other things in order to become part of the Brigade of Midshipmen. They must learn how to form up and march, how to understand Navy and Marine Corps jargon, and how to wear a uniform. All of these things are lessons that prior-enlisted Midshipmen have already learned. What is often seen within

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<sup>21</sup> U.S. Naval Academy. (2005) United States Naval Academy Internet Site. Retrieved March 7, 2005, from <http://www.usna.edu>

the newest class is the Detailer relying on the prior-enlisted Midshipman to assist in the training of their classmates. This classmate assistance will not be something done during normal training hours, it is often expected to be done when they retire to their rooms, or when they are left unattended by the Detailers. For many of the direct-entry Midshipmen, these prior-enlisted classmates are their first introduction to the type of people and level of performance will be found when they enter the fleet.<sup>22</sup>

During these times, the prior-enlisted Midshipmen have an opportunity to offer friendly advice and assistance to their classmates, correct small problems, and offer suggestions as to how to learn a new task quicker and more easily. Through this unofficial role they assume, they will find themselves becoming mentors for their classmates during this indoctrination phase of their training. This role of mentor can be one area that allows the prior-enlisted Midshipmen to develop in different ways than their direct-entry classmates. Mentorship is one of the areas that can be a potential benefit to prior-enlisted Midshipmen as they progress through their four years at the Naval Academy.

#### **D. THE VALUE OF MENTORING**

Having a strong core of mentors within an organization is a valuable asset for that organization. The prior-enlisted Midshipmen are looked at as a resource for their classmates, offering instructions on the mundane tasks such as folding clothes properly, preparing for an inspection, or in helping the others adjust to the new lifestyle they have begun. In many cases, direct-entry Midshipmen are separated from home for the first time in their lives. By these prior-enlisted Midshipmen becoming mentors to their classmates, they are strengthening not only their own leadership skills, but they are contributing to the Navy as a whole by supporting those they are mentoring. The mentor role is an important management competency that the Navy wishes to cultivate in all of its more senior Sailors and Marines through training and examples.<sup>23</sup>

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<sup>22</sup> Retrieved May 12, 2005, from [http://www.dcmilitary.com/navy/trident/9\\_20/local\\_news/29325-1.html](http://www.dcmilitary.com/navy/trident/9_20/local_news/29325-1.html)

<sup>23</sup>Naval Media News. (2001). Retrieved March 21, 2005, from <http://www.chinfo.navy.mil/navpalib/news/navnews/nns01/nns01088.txt>

The Navy recognizes the value of strong mentors in its Sailors and Marines. Mentors are able to help keep those Sailors who are on the fence with regards to their career intentions within its ranks. One senior officer discussed the importance of mentors by saying:

We draw on our experience when we were in their shoes and give them our honest appraisals of each item (of concern). We tell them what meant the most to us, and why those pluses and minuses, when added up, led us to a Navy career. We also tell them that this should be a career long endeavor.<sup>24</sup>

With the difficulties the armed services have had in recent years in recruiting, it is imperative that the Navy does all it can to help those qualified individuals contemplating leaving to understand why they should stay within the service.

During Plebe Summer, many Midshipmen inevitably will have a hard time understanding why they are doing some things, and will question their reasons for being there. With the help of prior-enlisted classmates, many of these Midshipmen will likely find support, and begin to learn the lessons that will help them successfully complete the challenges of the summer indoctrination period.

If the prior-enlisted Midshipmen begin to develop into mentors for their classmates during this summer training, not only will their classmates benefit, but the Navy as a whole has the chance to benefit by creating these newest mentors. A recent study explored the benefits of having mentors within an organization and found two very clear benefits, “firstly, mentoring is an effective career development and management training tool for employees; secondly, mentoring offers a number of organizational benefits such as retention of quality employees, effective succession planning, and increased organizational commitment.”<sup>25</sup> The only way that people can act as mentors in this situation is to have had experiences in the past that allows them to understand the situation that others are in. By the prior-enlisted Midshipmen having previously

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<sup>24</sup> Brooks, R. (2002, December). *Junior Officer Retention, Weighing the Options* [Electronic Version]. *Proceedings of the United States Naval Institute*, Vol 128 Issue 12

<sup>25</sup> Joiner, T., Bartan, T., Garreffa, T. (2004, September) The Effects of Mentoring on Perceived Career Success, Commitment and Turnover Intentions. *The Journal of American Academy of Business*, Cambridge, 164-170.

undergone an indoctrination stage into the Navy, they should have certain insight and lessons that they are able to share with their classmates that have the potential to help them adjust and perform to a higher level than otherwise possible. One thing relevant here was a mention of the increased organizational commitment found in organizations that have strong mentors.<sup>26</sup>

## **E. ORGANIZATIONAL COMMITMENT**

Mentoring is an important trait for a leader to possess, and any organization that develops its employees must foster mentors to maintain positive role models and sustained development throughout the organization's maturing process.<sup>27</sup> Mentors can help do these things for an organization by developing a sense of organizational commitment within the organization. In Joiner's study, Meyer and Allen are recognized as the researchers who have taken the most comprehensive look at organizational commitment. They found that organizational commitment is actually composed of three parts: affective commitment (AC), continuance commitment (CC), and normative commitment (NC). To further explain these three terms, they defined AC as the *want to* of commitment, representing a person's emotional attachment or identification with an organization. The CC is the *need to* aspect of commitment, referring to a person's need to stay with an organization because he or she has too much already invested within that organization or it would be too difficult to leave. NC is the *ought to* of commitment. NC refers to the moral obligation a person feels towards the job, seeing it as a calling, not just a job.<sup>28</sup> Why is fostering this concept of organizational commitment such a concern to the Navy? The benefits of having a strong sense of organizational commitment amongst Midshipmen, Sailors, and Marines go a long way toward promoting the idea of creating those graduates who are dedicated to a career of Naval service that the Naval Academy wishes to create.

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<sup>26</sup> Joiner, pg. 169.

<sup>27</sup> Joiner, pg 165.

<sup>28</sup> Gade, Paul, A. (2003). Organizational Commitment in the Military: An Overview. *Military Psychology*, pg. 163-164.

Through his studies in organizational commitment, Allen found that strongly committed employees are less likely than those with weak commitment employees to express intent to leave an organization.<sup>29</sup> The Navy also believes that a weak sense of organizational commitment has led many Sailors to leave the uniformed service in the past, and is looking for ways to change that.<sup>30</sup> By fostering a group that displays strong forms of commitment to the organization, an organization will find that its members become more cohesive, satisfied, and better prepared to tackle future problems that may arise.<sup>31</sup>

For Midshipmen at the Naval Academy, organizational commitment can be found in the pride they take in the company they are in, and in their work towards achieving the highest placed company during the yearly color company competition, one that measures all companies against each other in academic, military, and athletic competitions.

Organizational commitment can also be seen by observing the Naval Academy Alumni. All graduates of the Naval Academy closely identify themselves by the year in which they graduated. This is a common bond that they form with their classmates that will identify them as a group for years to come following graduation. The stronger the sense of organizational commitment that a group forms, the better prepared it should be to tackle the problems faced by Midshipmen at the Academy and in the fleet.

The prior-enlisted Midshipmen in the brigade have the potential to foster a growing sense of organization commitment within the direct-entry Midshipmen through their example and actions. The prior-enlisted Midshipmen have already demonstrated signs of increased retention by choosing to come to the Naval Academy. All Midshipmen who enter the Naval Academy will go through four years of college courses at the Academy, with a minimum of five years of active duty service upon graduation. Those who choose aviation will serve, at a minimum, seven years on active duty. These

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<sup>29</sup> Allen, Natalie, J. (2003). Organizational Commitment in the Military: A Discussion of Theory and Practice. *Military Psychology*, pg 245.

<sup>30</sup> Kohn, Richard, H. (2002). *The Erosion of Civilian Control of the Military in the United States Today*. Retrieved April 4, 2005, from <http://www.nwc.navy.mil/press/Review/2002/summer/art1-su2.htm>

<sup>31</sup> Heffner, Tonia, S & Gade, Paul, A. (2003). Commitment to Nested Collectives in Special Operations Forces. *Military Psychology*, pg 222.

prior-enlisted Midshipmen have already begun their service in the military on contracts anywhere from two years to five years while enlisted. Upon entrance to the Naval Academy, a prior-enlisted Midshipman who graduates from the Naval Academy will have committed to service of at least nine years from their indoctrination day at the start of Plebe Summer. This dedication to continue serving the Navy and Marine Corps is a good example of persons with already developing signs of strong organizational commitment.

#### **F. PRIOR ENLISTED ACADEMIC READINESS**

Another topic of interest to this research is how prior-enlisted Midshipmen perform academically upon arrival at the Naval Academy. Direct-entry Midshipmen who enter the Naval Academy are considered Midshipmen who entered the Naval Academy either directly out of high school, or attended some other university or preparatory school prior to coming to the Naval Academy. It can be hypothesized that these individuals have a perceived advantage in the arena of academic readiness upon arrival due to their backgrounds. They have just recently departed from a facility that is designed to give them the necessary tools to begin a successful college career. Much of the success they will find in the academic fields at college will come through hard work and dedication, but they will have come from schools that taught courses designed to prepare them for the challenges of college curricula.

In addition to the course work direct-entry Midshipmen have taken in high school or preparatory schools, they also should have an advantage in recently coming from institutions that have classrooms that are similar to those they join at college. There is a certain continuance that comes from going from high school to college that should be familiar to them. Study habits, class schedules, learning tools and many other things will be familiar to them having just left high school. This can make the transition to college easier on them than those who have not been attending any college preparatory schools immediately prior to the first classes of freshman year.

The idea that this research proposes is that while there may be inherent difficulties for prior-enlisted Midshipmen due to their distance from a high school learning

environment, they have still had the opportunity to develop other tools that may allow them to perform well academically at the Naval Academy. Prior-enlisted Midshipmen may not have been sitting in college preparatory classes before coming to the Naval Academy, but it would be difficult to conclude that they were not continuing their education while serving in the enlisted ranks of the armed forces.

Prior-enlisted attending the Naval Academy are similar to the groups of individuals who fall into the adult education category. Adult education encompasses persons who are removed from high school and have begun college classes in order to improve their position in business and life. During that gap between high school and college, these individuals have had the opportunity to experience unique life lessons through work, training, socialization, and adult responsibilities that many direct input Midshipmen have not experienced. Whether it be the added maturity of age, or the added adult responsibilities they accepted during their enlisted service, these prior-enlisted applicants could have something given to them through their experiences that will serve the Academy, their classmates, and themselves well both in and out of the classroom.

## **G. REAL-WORLD CURRICULA**

Adults are the fastest growing population at many college campuses today. They have found that they have advanced as far as they can when armed with just a high school diploma, and they feel the need to take the next step and obtain a degree to continue growing in the work environment. Some of the advantages that they may possess are the skills and knowledge they gained during their workforce experiences, as well as a more realistic understanding of the demands of college because they already have work experience.<sup>32</sup> Understandably, a key to the success of a person returning to college after being part of the work force is the motivation factor. Only through their dedicated involvement and desire for progressing through the next stage of their development will they be able to achieve success at the college level. As noted earlier, much of this dedication and desire must be found in those prior-enlisted members who apply to the

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<sup>32</sup> Ewey, Melissa. (August 1997). Returning to School: Adults Pursuing College Degrees [Electronic Version]. *Ebony Man*, Vol. 12 Issue 10, pg. 66.

Naval Academy. Through recommendations, fitness reports, and evaluations, the Naval Academy is able to select those who they believe are willing to put forth the effort to succeed as undergraduates within the institution.

Some educators believe there are valuable lessons to be learned through real-world problem solving tasks. They believe that through success in real-world problem solving, students will be able to foster success in classroom problem solving. While many educators have found it difficult to bring real-world problem solving into the classrooms, the ones who have experimented with these problems have found the benefits invigorating.<sup>33</sup> Gordon, for example, commented that “Life involves an ongoing series of problems to solve, decisions to make, concepts to understand, and products to produce...in life we make decisions and do things that have concrete results. Very few of us do worksheets.”<sup>34</sup>

Another lesson many are able to learn from real-world problem solving exercises is that of resource management, specifically, how to handle problems using more than just the tools that the individual has on hand. Gordon discussed how students of real-world problem solving studies are able to develop the ability to go outside their own resources and gather information and skills from other individuals, and resources to solve complex problems.<sup>35</sup> Many of the tasks and assignments received in college can not be done with just the knowledge on hand, rather they require outside resources to achieve the correct solution. Having already had the opportunity to begin experimenting with these dynamic problems, prior-enlisted may be better prepared to complete the tasks they receive in the classrooms.

Another lesson real-world problem solving provides is that of logical and sequential problem solving.<sup>36</sup> In high school, many problems students face are simple and straightforward in their challenge, and once the answer is found, the student advances to the next problem, which is oftentimes completely unrelated. Gordon believed that as

<sup>33</sup> Gordon, Rick. (1998, March). A Curriculum for Authentic Learning. *Education Digest*, Vol 63, p. 4-5.

<sup>34</sup> Gordon, p. 2.

<sup>35</sup> Gordon, p. 2.

<sup>36</sup> Gordon, p. 2.

students' progress into college, many of the classes and tasks will build on each other to encourage growth within the student in a logical flow path. For prior-enlisted, this skill is one they would have most likely begun developing in their own warfare community. Very few of the systems that prior-enlisted deals with in their environments are stand alone. For example, a ship contains an engine room, and to understand how the equipment in the engine-room affects ship driving, the enlisted person must have the ability to understand the interrelations that occur from forward to aft in that vessel.

To develop this system-wide understanding, the Navy requires that those enlisted personnel stationed on board ships and submarines are warfare qualified on their platforms. Enlisted persons attend boot camp, and then they begin training in their specific rating. Each school that they attend will prepare them to work with and understand the equipment that their rating is responsible for maintaining and operating on board vessels. When they arrive on board, they must begin to understand that this equipment is not all that makes up that vessel. They are required to acquire a basic understanding of the entire craft that they serve aboard, from the engine room to the fire control systems. This training allows them to begin to understand how manipulation of one thing can affect other things on that ship. This is the start of their training in the area of sequential knowledge. Before they perform a task, they must understand all that it will affect in their environment. This type of thinking will translate into some of the lessons they will learn inside the classrooms in college.

Many real-world problems follow a logical path; knowledge, skills, and attitudes learned and employed in one context carry over to the next. The curriculum in the real-world looks less like a compilation of discrete building blocks and more like a continuous ascending spiral in which each experience builds on previous ones as the student increases their understanding and improves their skills.<sup>37</sup>

These skills developed through the “authentic learning” cycle provides the prior enlisted with tools to allow them to excel in the classrooms of the Naval Academy.

Further studies by Kuh in 1995 on education during college have found that much of the education one receives while at a university is actually found outside of the

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<sup>37</sup> Gordon, p. 2

classroom. Many of the lessons discussed in this context can be found in the years spent in enlisted service for the prior-enlisted Midshipmen, therefore the ‘outside the classroom’ lessons of college will be more of a continuation of lessons learned previously for many prior-enlisted Midshipmen.

## **G. OUT-OF-CLASS LEARNING**

A study conducted by Kuh in 1995 discussed the importance of the out-of-class learning experience found in universities. In Kuh’s research, he uncovered that “for about 40 percent of students, the do-it-yourself side of college (what took place outside of the classroom) was the most significant educational experience.”<sup>38</sup> Specifically, Kuh found out that the extra curricular activity that most contributed to the education of students was that of leadership roles.<sup>39</sup> Kuh found that students were able to develop their practical competence and humanitarian skills through experienced leadership opportunities. This learning through leadership is something that can be correlated with the experiences many prior-enlisted Midshipmen have had during their time spent within the enlisted ranks of the military.

For applicants to the Naval Academy, leadership potential is assessed during the admissions process. For direct-entry Midshipmen, this is done primarily by reviewing their involvement in extra curricular activities (ECA). For prior-enlisted applicants, much of the leadership assessment can be taken from comments from senior officers in and out of their chain of command that all must include with their application packets. In addition to these comments, there are fitness-reports, periodic evaluations conducted on the enlisted service-members, which spell out the type of leadership responsibilities they have held and their performance as leaders within their unit. These evaluations can be very beneficial in determining the true measure of an applicant’s leadership ability in a military context.

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<sup>38</sup> Kuh, George,D. (March/April 1995). The Other Curriculum, Out of Class Experiences Associated with Student Learning and Personal Development. *Journal of Higher Education*, Vol. 66, No. 2. p. 123-155.

<sup>39</sup> Kuh, p. 129.

In Kuh's 1995 study, he also discovered a relationship between leadership roles and students' certainty in career choices. By being led and leading others in the fleet, prior-enlisted Midshipmen have had an opportunity to make educated decisions as to what they wish to do to further their military careers and, therefore, are more committed to the career choice they will be making by applying to the Naval Academy. This commitment will be something that can be beneficial to the applicant as well as the Navy due to the correlation between organizational commitment and career success and longevity, which was described earlier.<sup>40</sup> One key to all of the opportunities for development presented to prior-enlisted members during their service is in the degree of involvement they place in these lessons. Without committed involvement on the part of the individual, even the greatest opportunities to learn can be for naught.

## **H. THE VALUE OF INVOLVEMENT**

The opportunities to develop skills and further education are present within the enlisted ranks. The key to maximizing these opportunities and fostering growth in their knowledge resources is to maximize the individual's involvement and commitment to the process. This is a voluntary act on the part of the participants that will determine to what level they will experience growth and development. In 1991, Astin, found that "The amount of learning or development is directly proportional to the quality and quantity of involvement."<sup>41</sup> A lot of the involvements in these stages of development will probably come naturally for many of the enlisted persons who have applied to the Naval Academy

The prior-enlisted who reach the Naval Academy are those who were involved in their careers, and took action to move forward in their military development. These are the ones that maximized their involvement in the opportunities presented by the military. Astin went on to say that different students will invest varying amounts of energy into different activities, and he found both quantitative and qualitative measures to support

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<sup>40</sup> Joiner, T., Bartan, T., Garreffa, T. (2004, September) The Effects of Mentoring on Perceived Career Success, Commitment and Turnover Intentions. *The Journal of American Academy of Business, Cambridge*, 164-170.

<sup>41</sup> Pascarella, Ernest T., Terenzini, Patrick T. (1991) *How College Affects Students. Finding Insight from Twenty Years of Research*. San Francisco, Oxford, p. 50.

this.<sup>42</sup> An example he gives in understanding this involvement principle was something as simple as the number of organizations to which a student belongs, or the number of times a student uses the library. Another example given suggests a positive relationship between grades and the amount of intellectual effort put into studying. Likewise, organizing a campus-wide event requires more effort and is potentially a more powerful learning experience than merely attending the event. Even though the enlisted personnel are sometimes driven into these stages of development for the missions they are assigned, those who invest the maximum amount of energy into these tasks are the ones who will have the maximum growth benefit available. Looking for enlisted personnel who have dedicated themselves to development within the fleet may lead to Midshipmen who are dedicated to performing at a high standard while attending the Naval Academy.

As previously mentioned, many of the enlisted personnel who apply to the Naval Academy have begun raising their involvement within the service by applying to raise their responsibility and command levels through a commission. If it is true that these ideas of involvement and dedication of time will show a positive relationship to performance and learning, then it is possible that this will show up during the prior-enlisted Midshipmen's time at the Naval Academy through performance or academic measures. If these traits described in this chapter are not related to the prior-enlisted Midshipmen at the Naval Academy, then there is a chance that they will not perform as well as their direct-entry counterparts due to the disparity between their academic readiness as evident in their SAT and high school performance. If this is the case, then even if they are admitted, they will have a relatively high chance of leaving the Naval Academy before completing their four years. Attrition at the Naval Academy only serves to lessen the number of officers who are sent to the fleet from the Naval Academy, and that is contrary to the mission of the Naval Academy.

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<sup>42</sup> Kuh, p. 125-126.

## I. ATTRITION AT THE NAVAL ACADEMY

Considerable research shows that many first-year students fail to complete their college careers due to adjustment concerns or environmental factors.<sup>43</sup> Some of the factors discussed by Pitkethly in his research in 2001 were unclear goals developed by the student, misunderstandings of the university's mission when compared to the student's perceived mission, and feelings of isolation. While withdrawing from a university program that is not comfortable or appropriate for a student may be the right choice for that student, it is still a loss for the university. The Naval Academy places a high value on each and every student who enters on indoctrination day because each one has the potential to gain a quarter of a million dollar education at the government's expense. Once they have accepted their place in a class, that place can not be replaced or filled by another transferring.

One advantage that prior-enlisted Midshipmen may have is in their understanding of the mission of the Naval Academy, and what the expectations will be of an officer upon commissioning. The prior-enlisted Midshipmen will have had an opportunity to observe what an officer in the fleet is expected to do and how they must perform. The experience they have gained in observing first hand officers within the fleet is arguably unmatched. Non-prior Midshipmen may have opportunities to observe military culture and behaviors through military family members, military prep schools, or possibly junior ROTC programs, but these are not going to give the same wide and all-encompassing view of the missions and tasks of an officer.

One difficulty that could arise for many prior-enlisted midshipmen is the adjustment period they will undergo in departing the active duty fleet service to becoming a midshipman at the Naval Academy. The adjustment necessary for the prior-enlisted Midshipmen to a college curriculum balanced with military obligation can be a difficult one for them if they do not fully understand the structure of the Naval Academy when they arrive. "Academic adjustment is a key to perseverance at a university. Motivation to learn, taking action to meet academic demands, a clear sense of purpose

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<sup>43</sup> Pitkethly, Anne, Prosser, Michael. (2001) The First Year Experience Project: a model for university-wide change. *Higher Education Research & Development*, Vol. 20, No. 2.

and general satisfaction with the academic environment are important elements of academic adjustment.”<sup>44</sup> Pitkethly’s study in 2001 discusses the need for orientations to be effective at a university to assuage some of the difficulties of adaptation to the new lifestyle. Prior-enlisted Midshipmen have a slight advantage during this time due to their experiences working within a military organization and understanding some of the basic concepts such as chain of command and rank and structure. Even with this perceived head start on the adjustment period, one problem that may arise is a misunderstanding of the type of military environment the Naval Academy offers.

Many prior-enlisted Midshipmen come from a lifestyle that while taxing, has certain freedoms and benefits that they will not be offered upon induction into the Naval Academy. When commenting on the four-year experience offered at the Naval Academy, their website states “Your four years at the Academy will be tightly structured.” It is possible that a prior-enlisted Midshipman will not have the benefit of understanding just how regimented their entire four years at the Naval Academy will be. This problem could lead to the disillusionment discussed previously that leads to retention difficulties at the Naval Academy.

## **J. NAPS ADJUSTMENT PHASE**

One way that the Naval Academy attempts to best prepare the prior-enlistee’s transition from the fleet to the Naval Academy lifestyle is through the Naval Academy Preparatory School (NAPS). One purpose that NAPS serves is to create an environment for adjustment to the military and the Naval Academy way of life. NAPS starts off with a transition period similar to Plebe Summer that takes civilians and forms them into service members. The prior-enlisted Midshipmen are also given a chance to experience the beginnings of what they will see upon entering the Naval Academy. This transition period ends once the academic year begins, but the adjustment continues. The Midshipmen candidates’ time and freedom at NAPS will be regimented in much the same fashion as during Plebe year. They will lose the right to wear civilian clothes, liberty is earned, not given freely, and supervision is constant, not something that stops at the end

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<sup>44</sup> Pitkethly, p. 188.

of the working day. For many prior-enlisted, this will be a dramatic change, and one that may be difficult to adjust to if they are not familiar with just how controlled the lifestyle of a Midshipman or a Midshipman candidate at NAPS will be.

During this time at NAPS, if Midshipman candidates do not feel that they can exist under this new structure, they can depart and return to their enlisted ranks. The major advantage for the Naval Academy at this point is that the loss of a NAPS candidate does not mean an irreplaceable loss of a Midshipman. The allotted billets for the new class of Midshipman can still be filled by pulling in another direct-entry student so that the loss is only at NAPS, and not at the Naval Academy. It is arguably a good thing to have the ability to identify those who are not committed to completing the journey through the Naval Academy while still at NAPS but, ultimately, it would best serve the Naval Academy if they could identify and eliminate those weaker applicants during the admissions process.

Not all prior-enlisted will attend NAPS prior to entering the Naval Academy. Each year, there are a select number who come to the Naval Academy directly from the fleet or training commands. These candidates are the ones who show the academic ability to deal with the stress of re-entering the classroom environment at a college level and succeed. In a look at the average SAT scores taken from a data set of all Midshipmen from 1999-20004, those prior-enlisted that entered the Naval Academy directly from the fleet showed much higher SAT scores than those that entered NAPS and then came to the Naval Academy. The average scores are found in Table 2.

**Table 2.** Prior-Enlisted SAT Averages from NAPS and Direct from the Fleet

	SAT Math Avg.	SAT Verbal Avg.	Number within Data Set
Prior-enlisted attending NAPS	619.68	602.29	308
Prior-enlisted direct from fleet service	663.63	636.46	106

## **K. SCREENING FOR ATTRITION IN PRIOR-ENLISTED**

Research has established that a relationship exists between certain risk factors and attrition for students. Some of the categories of risk factors that can lead to attrition are:

1. Demographic characteristics and family background
2. Past school performance
3. Personal/psychological characteristics
4. Adult responsibilities
5. School or neighborhood characteristics<sup>45</sup>

These factors have been directly associated with attrition on many levels of schooling and through many years of research. They have the potential to be used to identify applicants who may not show the highest levels of commitment to completing the four years of Midshipman life at the Naval Academy.

Gleason found that there were more cases of attrition found in minority groups. While this finding is interesting, this scope of this research is focused on prior-enlisted Midshipmen, regardless of race or ethnicity. Gleason's research found that family backgrounds played a large role in the performance of the students. Students who came from low income homes, or who had parents with a minimum education were more likely to attrite than others. He also found that families with limited English language skills were also at risk of attrition.<sup>46</sup>

Prior-enlisted Midshipmen do not come directly from a home life environment. Many were living on their own in towns where they were stationed, or living in base accommodations, whether that be in barracks or on board Naval vessels. While the Navy is a diverse organization, English is still the language of choice for all personnel, and therefore, should play little to no part in the screening process of these Midshipmen. In conjunction with that, prior-enlisted Midshipmen who apply must be single, with no dependents. While junior enlisted would not fall into wealthy lifestyles with their pay and allowances, they are still provided with pay that is adequate for a single man or

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<sup>45</sup> Gleason, Philip & Dynarski, Mark. (2002) Do We Know Whom to Serve? Issues in Using Risk Factors to Identify Dropouts. *Journal of Education for Students Placed at Risk*, Vol. 7, No. 1. p. 25-41.

<sup>46</sup> Gleason, p. 3.

woman to exist on. The thing to look for is did they manage their income effectively? Large debt to income ratios can be indicators of poor management skills.

## **L. CONCLUSIONS**

Through all of the ideas explored in this chapter, there are indicators that regardless of any perceived deficiencies that may exist among the prior-enlisted Midshipmen in academic abilities, the lessons and knowledge they may have gained during their enlisted service have the potential to overcome these deficiencies. Through their work experience, enlisted training, dedication to service, involvement in career opportunities, and understanding of what is required of a service-member, they have the potential to overcome problems faced at the Naval Academy, and may even succeed where their direct-entry classmates will not. It is hypothesized within this study that they may have less of an adjustment period initially upon entry to the Naval Academy due to their military experience, and therefore may have the opportunity to focus instead on the challenges that will be waiting for them within the classrooms. The present research will build upon these ideas and try to understand if any of the lessons and experiences discussed in this chapter will apply or affect the performance of the prior-enlisted Midshipmen at the Naval Academy.

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### III. DATA AND ANALYSIS

#### A. VARIABLE DESCRIPTIONS

The data used for this research were obtained from the Naval Academy’s Office of Institutional Research (USNA-IR). This data set contains information on the Naval Academy classes of 1999-2004. Information concerning these data is found in Table 3.

**Table 3.** Descriptive Statistics (N=7222)

<b>Variables</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean (Total)</b>
Combined ECA scores	300	800	552.96
High School Official	200	800	563.8
SAT math scores	420	805	662
SAT verbal scores	350	805	634
Recommendation scores from High School	492	1115	878
NAPS attendee	0	1	0.15 (1077)
Broadened Opportunity for Officer Selection and Training (BOOST) or Nuclear Power School(NPS) attendee	0	1	0.016 (114)
Foundation attendee	0	1	0.06 (433)
Prior-enlisted	0	1	0.073 (528)
Plebe Year cumulative academic quality point rating (CAQPR)	0	4	2.89
Plebe Year cumulative military quality point rating (CMQPR)	0.83	4	3.06
First Class CAQPR	1.92	4	2.97
First Class CMQPR	1.9	3.91	3.12
Striper Selection	0	1	0.14 (1040)

Athletic extra curricular activities (ECA) scores are derived from participation in various sporting activities within the candidate’s high school career. This allows the Admissions Board to evaluate the candidate’s motivation and potential leadership abilities. Non-athletic ECA participation can include student body counsel member, Boy Scouts, or other group functions. Combined ECA is a compilation of both athletic and non-athletic ECA scores.

High School official (HS Official) is a variable that is created by the Admissions Department that assigns a rank value to candidates based on high school graduation rank, their high school class size, and the evaluation of the courses that candidate took at the school. This value is used instead of High School rank because it factors in these other variables to allow comparison between those who attended large high schools with those who attended smaller, more specialized high schools.

SAT math and verbal scores are included in the data set because they are the best predictor of how successful candidates will be during their first year of college classes.<sup>47</sup> SAT score is one of the strongest variables when weighing a candidate's qualifications for the Naval Academy, but even with a very strong SAT score, a candidate must show other signs of being a person who is of the right character to become an officer in the Naval service. The Naval Academy will not admit someone based solely on his or her SAT scores. There are times when a high SAT score will not be enough to gain admissions to the Naval Academy. Even applicants with a high SAT score may be dismissed if the applicant fails to show the proper character or ethics, as determined by a character review board<sup>48</sup>.

Recommendations from high school (HS Recommendations) are based on write ups done by English and math teachers of the applicants. They are a measure of what the applicant's perceived dedication and potential from the perspective of those who have day-to-day interaction with the applicant and have a way to quantitatively and qualitatively evaluate his or her overall competence and character.

Plebe year academic ranking (CAQPR) and military ranking (CMQPR) are values assigned to each Midshipman at the Academy during Plebe year. The military grade is based on physical abilities, military performance, and grades received in military courses given at the Academy. The academic grade is based on the credit hours of a class as well

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<sup>47</sup> College board: Connect to college success. (2005) Retrieved May 19, 2005, from [http://www.collegeboard.com/highered/ra/sat/sat\\_scorefaq.html#rea7](http://www.collegeboard.com/highered/ra/sat/sat_scorefaq.html#rea7)

<sup>48</sup> U.S. Naval Academy. (2004) United States Naval Academy Internet Site. Retrieved March 2, 2005, from [http://www.usna.edu/AboutAIS/Admissions\\_Board.htm](http://www.usna.edu/AboutAIS/Admissions_Board.htm)

as the grade received in that class. The same inputs go into the first class year academic and military ranking system.

The Midshipman leadership within the brigade is composed of Stripers, those who have been selected to assume the rank of Midshipman Ensign, to Midshipman Captain. For the purpose of this research, Midshipman Stripers are those who have assumed the rank of Midshipman Lieutenant and above (three stripes or greater). All companies convene a board each semester that selects the company's Stripers for the following semester. From these interviews, the company forwards the names of those they recommend for higher billets to the Battalion Officer. They conduct further interviews to select Battalion staff and forward recommendations up to the Brigade Striper Selection Board where Brigade Stripers are interviewed and selected.<sup>49</sup>

Attrition code deals with the losses within the Brigade of Midshipmen. The varying reasons explored in this research are:

- Voluntary resignation during Plebe Summer due to motivation
- Voluntary resignation during Plebe Summer due to personal reasons
- Voluntary resignation during academic year due to motivation
- Voluntary resignation during academic year due to personal
- Conduct resignation
- Honor resignation
- Academic discharge
- Aptitude discharge
- Physical education discharge
- Medical discharge
- Deceased
- Accident occurring

The following section describes the models used to analyze performance in academic and military fields, and the model created for Striper selection and attrition of prior enlisted candidates.

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<sup>49</sup> Commandant Instruction 1601.12a Brigade Striper Selection and Organization Procedures.

## **B. ANALYSIS AND DATA**

### **1. Plebe Year Academic Performance**

To create a model that explores the academic grades received at the end of Plebe year, this study uses admissions data provided for both prior-enlisted and direct-entry Midshipmen with a total sample size of 7222 Midshipmen. Regardless of the major that the Plebes select, many of the Plebe year classes are the same for all Midshipmen. For this model, a linear regression is used to understand the independent effects various admissions variables have on the Plebe year academic grades. Initially, a correlation is run to understand the relationships between the various independent variables selected for this model.

Initially, the variables selected for the model of Plebe year academic grades were combined ECA score, high-school official score, recommendations from high school officials, SAT math and verbal scores, whether or not that Midshipman attended NAPS or another feeder program such as BOOST or Foundation school, whether that Midshipman was a student at Nuclear Power School (NPS), and if he or she was prior-enlisted within another field. The correlation with Pearson values is shown in Table 4.

**Table 4.** Correlation of Independent Variables

	Priors	BOOST and NPS	Foundatio n	NAPS	SAT Verbal- highest	SAT Math- highest	Hs Recomm e ndation	HS Official	Combined ECA	Plebe CAQPR	4/C CAQPR
Priors	1.000	0.451	-0.071	0.342	-0.081	-0.115	0.029	-0.220	-0.168	-0.045	
BOOST and NPS	0.451	1.000	-0.032	-0.053	-0.007	-0.014	-0.014	-0.079	-0.097	0.014	
Foundatio n	-0.071	-0.032	1.000	-0.106	-0.038	-0.051	-0.087	-0.158	0.018	-0.068	
NAPS	0.342	-0.053	-0.106	1.000	-0.369	-0.444	-0.069	-0.362	-0.092	-0.287	
SAT Verbal- highest	-0.081	-0.007	-0.038	-0.369	1.000	0.461	0.076	-0.035	-0.035	0.333	
SAT Math- highest	-0.115	-0.014	-0.051	-0.444	0.461	1.000	0.050	-0.059	-0.059	0.424	
Hs Recomm e ndation	0.029	-0.014	-0.087	-0.069	0.076	0.050	1.000	0.132	0.132	0.196	
HS Official	-0.220	-0.079	-0.158	-0.362	0.282	0.316	0.310	1.000	0.141	0.458	
Combined ECA	-0.168	-0.097	0.018	-0.092	-0.035	-0.059	0.132	0.141	1.000	0.027	
Plebe CAQPR	-0.045	0.014	-0.068	-0.287	0.333	0.424	0.196	0.027	0.027	1.000	
4/C CAQPR											1.000

The control variable for all models will be those Midshipmen who enter the Naval Academy directly from high school. All other variables were correlated with the dependent variable of Plebe CAQPR and possessed distributions that were acceptable for application to a regression model.

A model using variables that are independent and are hypothesized to contribute to the Plebe end-of-year grade is presented below:

$$\begin{aligned} \text{Plebe Year Grades} = & \beta_1 * \text{Priors} + \beta_2 * \text{Foundation} + \beta_3 * \text{Boost/NPS} + \\ & \beta_4 * \text{NAPS} + \beta_5 * \text{Combined ECA} + \beta_6 * \text{HS Official} + \beta_7 * \text{HS Recommendation} \\ & + \beta_8 * \text{SAT\_M} + \beta_9 * \text{SAT\_V} + \epsilon \end{aligned}$$

The model uses ordinary least square regression (OLS) to understand the impact these independent variables have on plebe year CAQPR. The OLS results are shown below in Table 5.

**Table 5.** Plebe Year CAQPR Regression Output

Variable	Coefficient	Significance
(Constant)	-0.444	0.000
Combined ECA	0.000	0.882
HS Official	0.002	0.000
Priors	0.137	0.000
Recommendations from HS	0.000	0.000
SAT Math	0.002	0.000
SAT Verbal	0.001	0.000
NAPS	-0.027	0.183
Foundation	0.021	0.389
BOOST and NPS	0.059	0.242

The  $R^2$  statistic for the Plebe end of year CAQPR OLS model is 0.314. The significance of the variables in the model is given by the significance value shown in the far column of Table 6. Variables are considered significant to this model at the .05 level. Using this criterion, Combined ECA scores, NAPS, Foundation, BOOST, or NPS attendance are not significant. Of the significant variables, HS Official, Recommendations from HS, SAT\_M and SAT\_V all show positive correlation to achieving higher Plebe Year CAQPR. The variable of prior-enlisted experience is significant and has a strong positive impact on the Plebe end of year CAQPR. If a Plebe is a prior enlisted student, and all other variables are considered equal in a comparison with direct-entry students, the prior-enlisted Plebe will have a .137 higher CAQPR at the end of Plebe year on a four-point grading scale.

In a mean comparison between prior-enlisted and direct-entry Midshipmen in the data set, prior-enlisted Midshipmen have an average CAQPR at the end of plebe year 0.09 lower than direct-entry Midshipmen, but when controlling for all other variables within the OLS model, prior-enlisted Midshipmen have a higher CAQPR at the end of Plebe year.

## 2. First Class Year Academic Performance

The admissions data used to explore Plebe year CAQPR are acquired prior to a Midshipman’s time at the Naval Academy. By the time the Midshipmen have reached their first class year at the Academy, they are four years removed from the experiences prior to the Academy. To understand if these admissions data variables still predict any success at the completion of the student’s time at the Naval Academy, it is important to look at the graduating first class. Again, just looking at the averages of prior-enlisted first class and direct-entry first class, there is a 0.09 point higher CAQPR for the direct-entry Midshipmen at the time of graduation. An OLS model is run that is similar to the previous one, except that the dependent variable is first class year CAQPR:

$$\text{First class Year Grades} = \beta_1 * \text{Priors} + \beta_2 * \text{Foundation} + \beta_3 * \text{Boost/NPS} + \beta_4 * \text{NAPS} + \beta_5 * \text{Combined ECA} + \beta_6 * \text{HS Official} + \beta_7 * \text{HS Recommendation} + \beta_8 * \text{SAT\_M} + \beta_9 * \text{SAT\_V} + \epsilon$$

The results of the OLS model are found in Table 6.

**Table 6.** First Class Year CAQPR Regression Output

Variable	Coefficient	Significance
(Constant)	-0.022	0.816
Combined ECA	0.000	0.750
HS Official	0.001	0.000
Priors	0.132	0.000
Recommendations from HS	0.000	0.000
SAT Math-highest	0.002	0.000
SAT Verbal-highest	0.001	0.000
NAPS	-0.044	0.020
Foundation	-0.015	0.488
BOOST and NPS	0.048	0.308

The  $R^2$  for the OLS model is 0.339. In this model, the independent variables of Combined ECA, Foundation, and Boost or NPS attendance are not significant. Similar to the previous model of Plebe year CAQPR, and again holding all other variables constant, a prior-enlisted who came directly from the fleet to the Naval Academy has a 0.132 point higher CAQPR than a direct-entry Midshipman on a four-point grading scale. For a prior-enlisted coming to the Naval Academy from the fleet, they will have a .088 point higher CAQPR than a direct-entry Midshipman.

### **3. Plebe Military Performance**

CMQPR is another quantifiable factor the Naval Academy uses to measure military performance of Midshipmen at the Naval Academy. Using CMQPR at the end of Plebe year, a model is created that examines which admissions variables are independent of each other and have a significant impact on the Midshipman's military performance. The initial correlation of the variables used in the previous models for CAQPR showed that there was no significant overlap among the independent variables in the OLS model run on CMQPR for Plebe year.

A model with the admissions data used for the military study is created looking at the military performance of Plebes with emphasis on understanding if prior-enlisted service plays a significant role in the Midshipman's evaluation:

$$\begin{aligned} \text{Plebe year CMQPR} = & \beta_1 * \text{Priors} + \beta_2 * \text{Foundation} + \beta_3 * \text{Boost/NPS} + \\ & \beta_4 * \text{NAPS} + \beta_5 * \text{Combined ECA} + \beta_6 * \text{HS Official} + \beta_7 * \text{HS Recommendation} \\ & + \beta_8 * \text{SAT\_M} + \beta_9 * \text{SAT\_V} + \epsilon \end{aligned}$$

The results of the model are found in Table 7.

**Table 7.** Plebe Year CMQPR Regression Output

	Coefficient	Significance
(Constant)	1.208	0.000
Combined ECA	0.000	0.000
HS Official	0.001	0.000
Priors	0.137	0.000
Recommendations from HS	0.000	0.000
SAT Math-highest	0.001	0.000
SAT Verbal-highest	0.000	0.000
NAPS	-0.066	0.000
Foundation	0.092	0.000
BOOST and NPS	-0.095	0.016

The  $R^2$  for this model was 0.181. All of the variables within this equation proved to be significant to the 0.05 level. Prior-enlisted Plebes who enter the Naval Academy directly from the fleet have a 0.137 point higher CMQPR at the end of Plebe year if all other variables are held constant. Of note, NAPS, BOOST, and NPS students show a lower CMQPR than the rest of the data set when every other variable is held constant. This means that a prior-enlisted Midshipman that went to NAPS would have a .071 higher CMQPR, and a prior-enlisted that went to BOOST or came from NPS would have a .042 higher CMQPR when all other variables are held constant. To compare this to the mean CMQPR of prior-enlisted and any non prior-enlisted Midshipmen, non prior-enlisted Midshipmen have a 0.05 point higher CMQPR within the data set.

#### **4. First Class Military Performance**

A review of the mean difference between prior-enlisted and direct-entry Midshipmen's CMQPR shows that direct-entry Midshipmen have a 0.03 higher CMQPR than prior-enlisted Midshipmen at the end of their first class year. At this point in the Midshipman's career, it can be theorized that the influence of prior-service could have begun to fade. By the time all Midshipmen have reached their first class year, they have had a chance to become Midshipmen to the best of their ability. With the CMQPR encompassing so many variables, it would seem that after four years, any benefit of being prior-enlisted might not be as strong as during their first year at the Naval Academy.

Once again, there may be more to understanding the effect of being a prior-enlisted Midshipman than is shown in the mean analysis of CMQPR. Again, using the same independent variables as before, a correlation of the data is run to see which independent variables would be supportive in creating a regression model for first class year CMQPR. Again, it was found that all values acted independently to a degree that would allow them to act as independent variables within an OLS regression. The model used for this regression is listed below:

$$\begin{aligned} \text{First class year CMQPR} = & \beta_1 * \text{Priors} + \beta_2 * \text{Foundation} + \beta_3 * \text{Boost/NPS} + \\ & \beta_4 * \text{NAPS} + \beta_5 * \text{Combined ECA} + \beta_6 * \text{HS Official} + \beta_7 * \text{HS Recommendation} \\ & + \beta_8 * \text{SAT\_M} + \beta_9 * \text{SAT\_V} + \epsilon \end{aligned}$$

The results of the model are listed in Table 8.

**Table 8.** First Class Year CMQPR Regression Output

	Coefficient	Significance
(Constant)	1.511	0.000
Combined ECA	0.000	0.000
HS Official	0.001	0.000
Priors	0.135	0.000
Recommendations from HS	0.000	0.000
SAT Math-highest	0.001	0.000
SAT Verbal-highest	0.000	0.000
NAPS	-0.066	0.000
Foundation	0.068	0.000
BOOST and NPS	-0.087	0.015

The R2 for this model is 0.186. All independent variables within this model are significant to the 0.05 level. Again, NAPS and BOOST/NPS have a negative effect on a Midshipman's CMQPR at the time of graduation, but as before during their Plebe year, the Priors variable shows that a prior-enlisted Midshipman who enter directly from the fleet has a 0.135 point higher CMQPR upon graduation than a direct-entry Midshipman when all other variables are held constant. For prior-enlisted Midshipmen that attends NAPS, they would have a .069 higher CMQPR, and for prior-enlisted Midshipmen coming from BOOST or NPS, they would have a .048 higher CMQPR.

## 5. Striper Selection

Being selected as a Striper during a Midshipman's first class year is an opportunity for a Midshipman to begin practicing leadership skills in a hands-on environment where he or she will be in charge of fellow first class classmates as well as underclassmen. Being selected as a Striper is seen as a compliment, since he or she has been selected as a leader among their peers and the administration believes he or she will have the potential to lead his or her charges in a manner befitting a good naval leader. In a review of Striper selection based solely on prior-enlisted versus direct-entry, prior-enlisted Midshipmen are selected at a rate of 15.91 percent, while direct-entry Midshipmen are selected at a rate of 15.26 percent.

The selection of Stripers begins at the company level as all of the thirty companies create boards to interview and select their company commanders, who are three Stripers, and their company staff. From these interviews, recommendations are made for Midshipmen who the interview committee within the company believes have the potential to assume larger leadership responsibilities outside of the company. From the company interviews, the Midshipmen who are recommended by the Company Officer move onto the Battalion level interviews, where a Battalion staff is selected. From these interviews, other Midshipmen are recommended to Regimental and Brigade staff interviews for a chance at assuming the highest levels of Midshipmen leadership within the Brigade. In addition to the Bancroft hall Striper selection, each varsity sport selects a captain for the season. These captains are also given three stripes, as they are seen as leaders among their own team.

With Stripers being the leaders of the Brigade of Midshipmen, this study examines whether there is any relationship between admissions data and Striper selection. For the purpose of this model, Stripers will be considered those with three stripes or greater. The model uses logistic regression to predict Striper selection. The following model is used for Striper selection:

$$\begin{aligned} \text{Striper} = & \beta_1 * \text{Priors} + \beta_2 * \text{Foundation} + \beta_3 * \text{Boost/NPS} + \beta_4 * \text{NAPS} \\ & + \beta_5 * \text{Combined ECA} + \beta_6 * \text{HS Official} + \beta_7 * \text{HS Recommendation} \end{aligned}$$

$$+ \beta_8 * SAT\_M + \beta_9 * SAT\_V + \epsilon$$

The results of the model are listed below in Table 9.

**Table 9.** Striper Selection Regression Output

	<b>Coefficient</b>	<b>Significance</b>
(Constant)	1.511	0
Combined ECA	0.004	0.000
HS Official	0.002	0.000
Priors	0.763	0.000
Recommendations from HS	0.001	0.000
SAT Math-highest	0.004	0.000
SAT Verbal-highest	0.001	0.101
NAPS	-0.027	0.846
Foundation	0.321	0.030
BOOST and NPS	-0.087	0.015

The R2 for this model is 0.058. The significance of the independent variables is within the 0.05 level, with the exception of SAT verbal scores and NAPS attendance. A coefficient of 0.763 exists for the variable of prior-enlisted service. Therefore if one is a prior-enlisted Midshipman, and all other variables are held constant, he or she has a 76 percent chance of becoming a Striper. Also interesting is the coefficient values for NAPS and BOOST/NPS attendance. NAPS is not significant in and of itself, but both BOOST and NAPS show a negative relationship to Striper selection. Therefore, if everything else is held constant, a Midshipman who attended either NAPS, BOOST, or NPS would have a smaller chance of becoming a Striper.

## **6. Attrition at the Naval Academy**

Nearly 21 percent of all Midshipmen who enter the Naval Academy attrite for some reason. When Midshipmen leave the Naval Academy, they are given a code that reflects the reason they were discharged. Within the data set analyzed in this study, the reasons and percentages for attrition are given in Table 10.

**Table 10.** Attrition Reasons and Frequency (N=7222)

	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
voluntary resignation plebe summer-motivation	480	6.646	32.021
voluntary resignation plebe summer-personal	6	0.083	0.400
voluntary resignation ac year-motivation	536	7.422	35.757
voluntary resignation ac year-personal	7	0.097	0.467
qualified resignation-conduct	55	0.762	3.669
qualified resignation-honor	10	0.138	0.667
qualified resignation-honor and conduct	1	0.014	0.067
academic discharge-academic	246	3.406	16.411
academic discharge-academic and aptitude	4	0.055	0.267
academic discharge-academic, aptitude, and conduct	8	0.111	0.534
academic discharge-PE deficiency	48	0.665	3.202
discharged-aptitude	4	0.055	0.267
discharged-aptitude and conduct	5	0.069	0.334
discharged-conduct	50	0.692	3.336
discharged-honor	11	0.152	0.734
medical discharge	18	0.249	1.201
deceased-accidental	6	0.083	0.400
deceased-medical	4	0.055	0.267
Total	1499	20.756	100
System	5723	79.244	
	7222	100	

A review of these data shows that the majority (7.4 percent) of those who attrite do so because of motivation during the academic year. The next highest loss is seen during Plebe Summer, with 6.6 percent of the total number of Midshipmen who depart leaving due to motivation during the stressful Plebe Summer. Only 3.4 percent of all attrition at the Naval Academy is attributed to academic reasons, which is significant because it is the third largest category found within the data set. In an initial study of the percent of prior-enlisted and direct-entry who graduate, an almost equal number from both groups will graduate, with 79 percent of direct-entry midshipmen graduating, and 78.8 percent of the prior-enlisted Midshipmen graduating.

Both groups exhibit approximately 20 percent attrition throughout the four years at the Naval Academy. To better understand the reasons for the attrition, a look at the losses between prior and direct-entry Midshipmen based on attrition reasons is done through a cross tabulation of the data set. The results are shown in Table 11.

**Table 11.** Cross-Tabulation of Attrition between Prior-Enlisted and Direct-Entry

	Direct-entry Percent	Prior-enlisted Percent
voluntary resignation plebe summer-motivation	37.64	14.29
voluntary resignation plebe summer-personal	0.43	0.00
voluntary resignation ac year-motivation	36.34	38.39
voluntary resignation ac year-personal	0.35	0.00
qualified resignation-conduct	2.78	9.82
qualified resignation-honor	0.26	2.68
qualified resignation-honor and conduct	0.09	0.00
academic discharge-academic	13.44	18.75
academic discharge-academic and aptitude	0.17	0.89
academic discharge-academic, aptitude, and conduct	0.61	0.00
academic discharge-PE deficiency	2.52	6.25
discharged-aptitude	0.09	1.79
discharged-aptitude and conduct	0.26	0.89
discharged-conduct	2.95	1.79
discharged-honor	0.69	0.00
medical discharge	0.78	3.57
deceased-accidental	0.35	0.00
deceased-medical	0.26	0.89
	1153.00	112.00
	100.00	100.00

Of note, during Plebe Summer the second largest loss occurs for direct-entry Midshipmen with 37.64 percent of direct-entry losses occurring due to motivation causes. This is contrasted with priors having lost only 14.29 percent of their losses due to motivation during Plebe Summer. Both groups exhibit similar losses due to motivation during the academic year, with direct-entry losses at 36.34 percent and prior-enlisted showing 38.39 percent. This attrition reason can be due to the Midshipmen knowing they are facing discharge through an academic review board, so they choose to resign first. This is of course an assumption that cannot be directly verified with these data. Again, losses are found due to academics between the direct-entry and prior-enlisted, at 13.44

percent and 18.75 percent, respectively, with prior-enlisted showing a slightly larger loss by nearly five percent. The largest disparity between losses occurs for the qualified resignation due to conduct, with prior-enlisted losing 9.82 percent due to this cause and direct-entry Midshipmen only losing 2.78 percent. Another loss, while small, but still showing almost twice as much effect between the two groups, is discharge due to physical education requirements. Prior-enlisted lose 6.25 percent for this reason; while direct-entry only show a loss of 2.52 percent.

### **C. SUMMARY**

This chapter explained what variables would be used for the models used to investigate Plebe and First class year academic and military grades, as well as Striper selection. Following an explanation of these variables, models were created for academic and military rankings as well as Striper selection. All findings showed a positive relationship between prior-enlisted service and measurable outcomes. Additionally, a look at the attrition reasons between prior-enlisted and direct-entry Midshipmen was conducted, focusing on what differences were seen between the two groups.

The following chapter investigates these findings to further understand the meaning behind the model outputs. Furthermore, the next chapter will attempt to correlate the research from the previous chapter to what is being seen at the Naval Academy with regard to the differences between prior-enlisted and direct-entry in the areas of academic and military performance and attrition.

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## **IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

### **A. SUMMARY**

This study has examined the effects of prior-enlisted military experience on the academic, military, and leadership performance at the United States Naval Academy as well as the different attrition reasons of prior-enlisted and direct-entry Midshipmen. Various entry level data were used to compare and contrast the differences between the prior-enlisted and direct-entry Midshipmen. The findings of this study suggest that Midshipmen with prior-enlisted experience achieve higher ranking in academic and military fields when compared to a direct-entry Midshipmen with a similar academic background. This study also showed that prior-enlisted Midshipmen are selected to become Stripers within the Brigade at a higher rate than direct-entry Midshipmen, again when compared to direct-entry Midshipmen with similar academic backgrounds. When studying attrition, this study found that both prior-enlisted and direct-entry Midshipmen attrite at similar rates, but the reasons for attrition were very different for the two groups.

Chapter I provided an introduction to this study and discussed why prior-enlisted are potential assets to the Naval Academy but addressed possible difficulties for many of them to adjust to the academic rigors of the Naval Academy due to their backgrounds and time away from their high school environments.

Chapter II reviewed literature that relates to many of the prior-enlisted who come to the Naval Academy. The first part of Chapter II examines research concerning prior-enlisted Midshipmen at the Naval Academy. This research found that prior-enlisted Midshipmen perform better in military and academic fields at the Naval Academy than direct-entry Midshipmen with similar admissions data. The next section discussed research conducted on civilian college students with similarities to prior-enlisted, in that students within this study were away from high school for a number of years then attended college. Again, it was found that the time spent between high school and college gave students exposure to lessons and skills that aided them when they returned to the academic environment of college.

Following this, Chapter II examined the application process at the Naval Academy and how candidates are ranked according to performance in high school, scores on the SAT, participation in ECAs, and other notable achievements in their past. This section also looked at NAPS and BOOST, and the purposes they serve to prepare candidates for acceptance within the Brigade at the Naval Academy.

Experience of enlisted personnel during their time in service, such as mentoring and organizational commitment, and how those factors could be assets to them upon entering the Naval Academy were also examined. This section also explored the concept of real-world learning, which is what some researchers believe is a tool that allows individuals to perfect problem solving and team management techniques that are hard to recreate within a classroom.

Finally, Chapter II explored attrition within colleges. This looked at the reasons for attrition and explored ways that some believe schools can begin to screen for candidates who show higher potential to successfully complete their requirements and minimize those who have pre-disposed traits leading to attrition.

Chapter III discussed the data that were obtained from information resources at the Naval Academy, exploring the admissions variables and showing their relevance to the models used within Chapter III. Next, Chapter III described the models that were used to address the hypotheses presented in this research that prior-enlisted, while often academically challenged when compared to direct-entry Midshipmen, will perform better militarily and academically while at the Naval Academy. Following these models, this chapter also explored the attrition at the Naval Academy, with an emphasis on the reasons Midshipmen attrite and the differences between prior-enlisted and direct-entry Midshipmen.

## **B. CONCLUSIONS**

### **1. USNA Academic Performance**

This study examined the academic performance of Midshipmen at the end of their Plebe year and the end of the first class year at the Naval Academy. To look at predictors of success, a review of admissions data was conducted and applied to the model. The variables used in this and other models for this research were all contributors to the Whole Person Multiple that the Admissions Department uses when analyzing applicants. The strongest indicator of academic performance for Plebes and first class was prior-enlisted service when all other admissions variables were held constant. While much weight is given to an applicant's SAT scores and high school performance in admissions, this model shows that an applicant who has prior-enlisted service should also be strongly considered when comparing them to direct-entry candidates with similar academic backgrounds. While prior-enlisted performance showed a positive effect on academic performance within the regression models, a review of the average grades of prior-enlisted Midshipmen compared to direct-entry Midshipmen showed that prior-enlisted have a lower grade point average during their Plebe and first class year. Therefore the conclusion is that while prior-enlisted service is a positive attribute for a Midshipman, a prior-enlisted must still possess the academic ability to perform at a college level at the Naval Academy.

The Midshipmen who attended NAPS had lower academic standing during both their Plebe year and their first class year at the Naval Academy. This finding was unexpected, since many of the prior-enlisted Midshipmen who attend the Naval Academy come from NAPS, and NAPS is designed to give those who graduate from its program a background in the classes they will be taking during their Plebe year at the Naval Academy. Part of the reason this negative relationship may exist is that 72 percent of all NAPS students are not prior-enlisted; evidently the beneficial effects of attending NAPS are not sufficient to overcome the fact that civilian NAPS students are weaker than average candidates. It is also seen that prior-enlisted who attend NAPS are weaker students than the prior-enlisted who come directly to the Naval Academy from the fleet.

A finding of note among both academic models is how coefficient on prior-enlisted service remained nearly the same over all four years. While it may be assumed that after the first few years, the Midshipmen are integrated to a degree that the effect of this variable would begin to fade, it seems as if the prior-enlisted retain motivation to perform at a high level throughout their time at the Naval Academy.

## **2. USNA Military Performance**

This study examined the military performance of Midshipmen at the end of their Plebe year and first class year at the Naval Academy. Similar to the academic study, this study was done by creating a model using admissions data from Midshipmen at the Naval Academy. The variables used in this model were all large contributors to the Whole Person Multiple that the Admissions Department uses to rank applicants to the Naval Academy. From this model, the contribution of prior-enlisted performance stood out as a major contributor to military ranking as a Midshipman. Prior-enlisted Midshipmen received higher military marks at the Naval Academy during both their Plebe year and first class year when they were compared to direct-entry Midshipmen with similar admissions data. Again, when compared to the average military grade received of prior-enlisted versus direct-entry Midshipmen, direct-entry received slightly higher marks than prior-enlisted Midshipmen. This may be explained by the strong correlation between academic and military rankings. In looking at the correlation between a first class's academic and military ranking, it shows a correlation level of 0.706. With the higher average academic rankings held by the direct-entry Midshipmen, they are more apt to have higher military rankings as well. As with the academic models, both Plebe year and first class year models showed a negative correlation between attending NAPS and military performance at the Naval Academy. This again shows that prior-enlisted who attend NAPS are weaker students than those that come directly from the fleet.

Similar to the academic review, it is found that the coefficient for the prior-enlisted variable remains nearly constant over the four years at the Naval Academy. Again, it would seem that there is some sort of motivation factor that is related to prior-

enlisted service that does not fade through the four years they spend at the Naval Academy.

### **3. Striper Selection of Midshipmen**

This study examined Striper selection of Midshipmen during their first class year at the Naval Academy. In a review of the average Striper selection of prior-enlisted and direct-entry Midshipmen, prior-enlisted Midshipmen were selected at a higher rate than direct-entry Midshipmen. Again, a model was created to see how admissions variables would affect the selection of a Midshipman for a Striper billet. As with the previous models, the variable of prior-enlisted service showed a strong positive effect on Striper selection. This was the first model that showed prior-enlisted outperforming direct-entry Midshipmen regardless of their academic backgrounds prior to entering the Naval Academy. By the time they have reached first class year, and they are at a point where they are selected for leadership based on how their superiors perceive their inherent leadership ability and potential, prior-enlisted Midshipmen stand out from the rest of the Brigade of Midshipmen.

Again, a negative correlation existed between NAPS attendance and Striper selection. This could again be explained by understanding that the positive effect of prior-enlisted experience still exists, and many of the NAPS students are prior-enlisted, but more than seventy percent of all NAPS students are civilians, and they will not have the same experiences and backgrounds as their prior-enlisted NAPS classmates, therefore, the NAPS variable is not showing any positive relationship to Striper selection.

### **4. Attrition at the Naval Academy**

Direct-entry Midshipmen have a graduation rate from the Naval Academy of 79 percent, prior-enlisted graduate at a rate of 78.8 percent, so both groups attrite at nearly the same rate. The differences exist when looking at the reasons for their attrition. The largest loss of Midshipmen at the Naval Academy is due to voluntary resignation due to motivation after Plebe Summer. Both prior-enlisted and direct-entry are about equal in this type of attrition. The second largest loss is through voluntary resignation during

Plebe Summer due to motivation. The direct-entry losses seen during Plebe Summer are over twice as large as those for prior-enlisted Midshipmen. This may have much to do with the military enculturation that many prior-enlisted have experienced, and their commitment to success they possess upon arrival. During this difficult period of adjustment, their prior-enlisted experience appears to give them a distinct advantage in dealing with the high stresses found during Plebe Summer.

Another cause of attrition that shows the differences between direct-entry and prior-enlisted Midshipmen is that of conduct. For conduct attrition, Midshipmen can either resign, or face adjudication and be discharged. Conduct attrition makes up nearly seven percent of all losses at the Naval Academy. Prior-enlisted choose to resign over conduct reasons three times as often as direct-entry Midshipmen, while direct-entry Midshipmen are discharged due to adjudication nearly twice as often as prior-enlisted Midshipmen. This may be because the prior-enlisted having a better understanding of what will happen to them after they depart from the Naval Academy. While the number of cases in this matter are very small, it may be hypothesized that prior-enlisted are more likely to accept that they will not pass through an adjudication process, and would rather elect to return to service within the enlisted ranks.

## **C. RECOMMENDATIONS**

### **1. United States Naval Academy**

This research has shown that prior-enlisted Midshipmen perform better academically and militarily than their direct-entry classmates with similar academic backgrounds within the Brigade. Prior-enlisted Midshipmen make up a higher percentage of the leadership roles during their first class year, and they are more likely to make it through the difficult stages of Plebe Summer than direct-entry Midshipmen. Understanding this, looking for qualified prior-enlisted candidates for the Naval Academy should be stressed during the admissions process. Prior-enlisted Midshipmen are valuable assets to the Naval Academy as a whole as well as to their classmates within the Brigade. Through their commitment to succeed and their understanding of the

military culture that waits Midshipmen upon graduation, prior-enlisted are able to bring military lessons to their classmates not only in the classrooms, but within Bancroft hall through their actions and service. With the Naval Academy is continually striving to select qualified applicants who are dedicated to a career of Naval service, it is important to understand that prior-enlisted Midshipmen can be strong candidates for success even if their academic backgrounds are not as strong as some direct-entry applicants. A look at the admissions standards as they apply to prior-enlisted applicants should be conducted, to ensure that the Naval Academy is not passing by candidates that would indeed have the potential to successfully graduate from the Naval Academy and continue to contribute to the naval services.

## **2. United States Navy and Marine Corps**

There exist a large number of enlisted persons with the ability to contribute more to the service by entering the Naval Academy. It is important that the Navy and Marine Corps better advertise this opportunity to those who are qualified to enter the Naval Academy. It would serve the military well for those officers and recruiters within the fleet to begin actively searching for and talking to those who they think can undertake the challenges presented to them by joining the Brigade of Midshipmen at the Naval Academy. Many of the brightest Sailors have opportunities open to them other than joining the Naval Academy. Some of these Sailors may opt to leave the military, while others may be motivated to try to excel within the enlisted ranks. It is important that the Navy makes a strong effort to not only retain these Sailors, but to also help these Sailors make career choices that are not only beneficial to them, but are beneficial to the Navy as a whole. The Naval Academy is an opportunity for sailors to attain a college degree and continue serving the naval services.

From this research it seems that prior-enlisted possess something within them that allows them to overcome the challenges of returning to a classroom environment and completing college level courses, but there is still attrition that exists, and a majority of that comes from the academic year and conduct infractions. Naval Academy graduates in the fleet need to keep an eye on those whom they think possess the academic and

personal fortitude to stand up to the rigors of the Naval Academy and begin contributing to the service as officers rather than as enlisted men and women.

#### **D. SUGGESTIONS FOR FUTURE RESEARCH**

This thesis focused on the prior-enlisted at the Naval Academy, and gave very little time to the feeder sources such as NAPS, BOOST and Foundation schools. The models used for this research showed interesting correlations between leadership, academic, and military performance of those Midshipmen who attended these programs. Further studies should be conducted on these accession sources to determine if they are meeting the goals of their mission statement, and try to better understand just what advantages, if any, exist for Midshipmen who attend these programs.

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