

Enlisted Lateral Entry

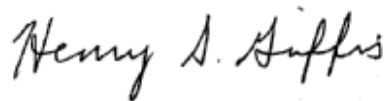
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A handwritten signature in black ink that reads "Henry S. Griffis". The signature is written in a cursive style with a large initial 'H' and 'G'.

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Contents

Executive summary	1
Background	5
The current Navy enlisted personnel system	5
A closed personnel system	5
Up-or-out (high-year tenure) and top 6	7
The compensation system	9
The future manpower profile	11
Technological changes and emerging threats.	11
Changing mix of paygrade and experience	12
Current force-shaping tools and their limitations	17
Current tools	17
SRBs	18
Faster promotions.	19
Perform-To-Serve (PTS) program	19
High-year tenure (HYT) and time-in-rank.	19
Limitations of the compensation system for achieving the future force structure.	20
Increases in pay tied to promotion.	21
The retirement system	21
Compensation reform	22
Lateral entry as another management tool	27
How does lateral entry work in the civilian workforce?	27
Lateral entry in the military personnel system	29
Summary of past experience with military lateral entry	30
Army experiences.	32
Navy experiences	33
HM experiment.	34
Prior-service lateral entrants	39
Returning NAVETs, OSVETs	39

Historical trends in PS accessions	40
Prior-service recruiting policies	41
Age, prior service, and broken service restrictions	42
Other restrictions	44
A closer look at PS recruits in the Navy	46
PS Navy accessions by prior branch	46
Reentry paygrade and length of service of	
PS accessions	48
NAVET careers	51
Paygrade policies	57
Attrition of PS accessions	63
PS experiences in the Reserve	67
Summary and conclusions for prior-service	
lateral entrants	71
Non-prior-service lateral entrants	73
Who is a possible lateral entrant?	73
Size of the market.	74
Earnings in the NPS lateral entry market	79
Incorporating other worker benefits.	82
Challenges of military-civilian compensation	
comparisons	86
Revisiting pretrained lateral entrants and	
apprenticeship programs	88
Pretrained recruits	88
Apprenticeship programs	90
Summary and conclusions for NPS lateral entrants	92
Appendix A: Logit estimates of probability of reenlisting	
 in lower paygrade.	93
Appendix B: Logit estimates of probability of attriting	95
Appendix C: Registered Navy apprenticeships	97
References	105
List of figures	109
List of tables	111

Executive summary

Since the advent of the All-Volunteer Force, the Navy has faced persistent challenges in managing its closed, up-or-out personnel system. The Navy has struggled to retain enough experienced personnel in various skilled occupations to meet its manpower requirements. New manpower needs have emerged, often requiring experienced people with specific skills not ordinarily found in the Navy. Few management options, however, have been available to meet those needs quickly.

To add to existing personnel management challenges, the Navy's manpower needs are expected to change significantly. New technologies and the possibility of more emerging threats are reshaping the Navy's manpower needs. The future profile is expected to have fewer low-skilled, very junior positions and more higher skilled, experienced positions.

To address current challenges and to meet more senior manpower requirements in the future without increasing the number of very junior Sailors, the Navy must consider some different personnel management tools. One such tool is lateral entry, a process by which an employee is hired and placed in an above-entry level position. Lateral entry in the Navy would allow civilian-sector workers who have relevant skills and work experience to enter the personnel system at a level commensurate with those skills and experience.

Although the Navy uses some lateral entry, notably for prior-service enlisted personnel and in its officer staff corps, it has yet to adopt lateral entry extensively. Widespread use poses some very difficult management challenges. The Navy must evaluate the training, skills, and experience gained by workers outside the Navy system and appropriately integrate those workers into the current personnel structure. In addition, the current military compensation system will not easily accommodate lateral entry. The current system closely ties pay and rank. This allows for virtually no flexibility in compensating for skills

and experience gained outside the rank system. The current compensation system also has a 20-year cliff-vesting retirement system. Lateral entrants who have never accrued time in the military will have to stay 20 years to receive any retirement benefits at all.

Lateral entry raises daunting questions and will require a different way of thinking about the Navy workforce. It will challenge many deeply held views on how to recruit and train workers, how to assign them to jobs, how to reward them, and how to develop leadership.

How can the Navy facilitate lateral entry? We analyze the pool of possible lateral entrants to gain insight into the barriers and ways forward to lateral entry, taking the demand for a more senior workforce as given. For much of this study, we focus exclusively on lateral entry into the enlisted force at the E4 level and higher. Assuming that the current compensation system will remain in place for the foreseeable future, we consider workers with prior military service as prime candidates for lateral entry. Navy veterans (NAVETs) and other Service veterans (OSVETs) who left active duty in good standing have had military training, have proved themselves in uniformed military workplaces, and have accumulated time toward military retirement.

We analyzed data on NAVETs over the last 20 years and found that their return-to-service experience is often less than satisfactory. Some NAVETs are demoted on return to active duty, and their advancement rates are slower than those of their counterparts who did not leave the Service—even though NAVETs, on average, compare favorably on certain key measures of worker quality with their active Navy counterparts. Moreover, their experience does not correspond to that of Perform-To-Serve Sailors, who maintain rank even as they move into jobs for which they may have no specific skills or experience.

We then consider the labor supply of non-prior-service (NPS) lateral entrants. We describe the earnings distribution of workers in occupations potentially compatible with lateral entry to the Navy. We found that the size of the potential NPS lateral entrant market is quite large but that matching current wages and salaries of workers in certain skilled occupations could pose a financial challenge for the Navy. Moreover, the military's cliff-vesting retirement plan, which requires 20 years of service, will not be attractive to many of these workers.

Should the Navy seriously consider lateral entry, we offer the following five recommendations:

1. *Build a strong set of consistent, streamlined policies for returning NAVETs.* A successful lateral entry program might best be built on quality workers who are familiar with the Navy workplace—namely, NAVETs who left active duty in good standing. Their return can alleviate current personnel management challenges (retention, etc.) as well as contribute to meeting the more senior manpower structure of the future.
2. *Recognize skills and experience gained in earlier Navy service or in the civilian sector.* It appears that some NAVETs' experience is discounted and/or that they were penalized for leaving active duty. If the Navy does not recognize earlier military experience or civilian work experience for its NAVETs, it has little chance of expanding its reach to potential NPS lateral entrants.
3. *Continue efforts to describe Navy jobs by their knowledge, skills, and abilities (KSAs).* A successful lateral entry program needs job descriptions with clearly identified requirements. The Navy must continue its efforts to describe Navy jobs by KSAs to be able to evaluate workers to fill positions at all levels, whether the worker is currently in the Navy or not.
4. *Continue to advocate for military compensation reform.* A successful lateral entry program will require a more flexible compensation system. For many reasons, including making lateral entry feasible, the Navy should continue to advocate for retirement reform and for a bigger separation of pay and rank.
5. *Expand the search beyond prior service personnel.* The market for NPS lateral entry is potentially quite large. There are workers in the civilian sector with the skills and abilities to fill mid-grade Navy jobs. Realistically, though, it will require both the ability to evaluate worker experience and a more flexible compensation system. Recommendations 1 through 3 will have to be addressed before NPS lateral entry becomes feasible, and recommendation 4 is likely necessary for successful NPS lateral entry.

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Background

Understanding the Navy's current enlisted personnel management challenges requires a basic understanding of its current personnel structure and the tools that shape it. Likewise, the Navy's future personnel management challenges are best understood in the context of its expected future manpower structure.

Numerous studies have explored in depth the manpower and personnel structures in the All-Volunteer Force. The studies include very detailed examinations of the rank structure, the promotion system, and the compensation system. Likewise, there are several studies and articles that examine future manpower requirements in detail. We direct readers to reference [1] for the former and to [2], [3], and [4] for the latter.

Our goal in this study is to discuss the implications of lateral entry as a new personnel management tool. To give context to the lateral entry discussion, we provide a brief overview of the current and planned future personnel structures and the personnel management tools currently available.

The current Navy enlisted personnel system

A closed personnel system

A closed personnel system is one in which young, mostly untrained workers begin their careers in the most junior positions in an organization. Over time, the workers who stay gain skills and experience and may advance to positions of greater authority and responsibility. A small number of these workers will eventually fill the seniormost positions in the organization.

The workforce management feature unique to a closed personnel system is lack of lateral entry. That is, in a closed personnel system,

there is no systematic way to bring in experienced, skilled workers and appropriately use those qualifications by assigning the workers to mid-level positions. All workers, regardless of skills or experience, must enter the closed personnel system in the juniormost positions.

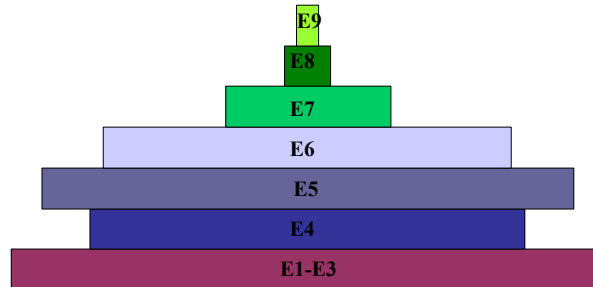
The Navy's closed personnel system requires that, every year, large numbers of young, essentially untrained personnel with little work experience are brought into the force at the lowest ranks. The Navy must provide extensive training to prepare these personnel for the juniormost jobs in the fleet. Sailors who leave the Navy can only be replaced by more junior Sailors who are coming up through the personnel system. The Navy does not bring in workers who have outside training and work experience with the idea that their skills and experience could be adapted to the Navy workplace and that they could be effective Sailors at mid-level ranks.¹

The Navy's pyramid-shaped manpower and personnel inventory profiles reflect the closed personnel system. A significant portion of all the manpower positions must be allocated to initial training of new entrants to the system. Correspondingly, the lowest ranks make up the largest proportion of the personnel inventory. Figure 1 illustrates the current inventory of Sailors by paygrade. In general, Sailors are promoted to E3 at about 18 months of service, so we combine the most junior (E1-E3) paygrades.²

About one Sailor in four holds the rank of E1 to E3, which is the equivalent of an entry-level worker. These Sailors are usually unskilled and are in training for their Navy occupation. Members of the largest proportion of the current enlisted endstrength are ranks E4 to E6, who are typically fully trained. These Sailors represent the bulk of the skilled technicians in the Navy. About one-tenth of Sailors are highly skilled and experienced and hold the rank of E7 and higher.

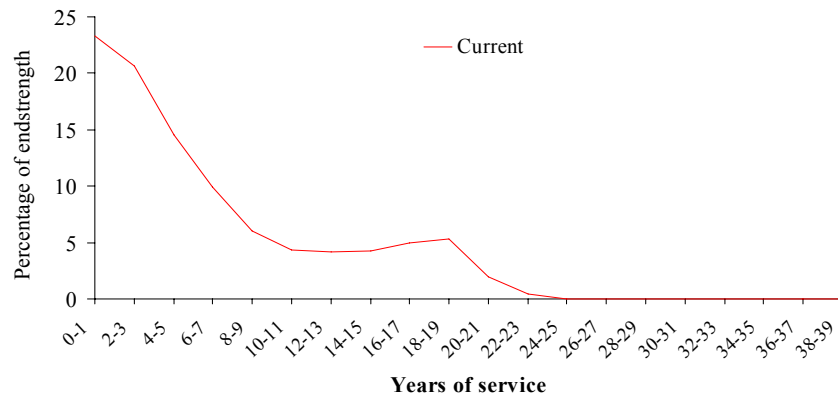
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1. Some recruits do have relevant outside work experience, but they are still brought into the Navy at the lowest ranks and are typically required to follow most of the Navy training curriculum, regardless of their relevant work experience.
 2. Source: CNA extract of the June 2005 Navy Enlisted Master File.

Figure 1. Current Navy enlisted manpower structure



Similarly, figure 2 illustrates the current Navy enlisted personnel inventory by experience level, or years of service. The personnel inventory has a very large proportion of Sailors with less than 4 years of experience and very few Sailors with 20 or more years of service.

Figure 2. Current experience levels of Navy Sailors



Up-or-out (high-year tenure) and top 6

The up-or-out concept in the personnel system limits how long Sailors can stay in a particular rank before they must leave the Navy. This is

also known as high-year tenure (HYT). If Sailors fail to promote to the next rank within a certain amount of time, they must leave the Service. Specifically, Navy HYT policies require that E6s leave the Service at 20 years, E7s at 24 years, and E8s at 26 years.

For Sailors to promote to the next rank, there must be an opening at that next higher rank. Sailors must have mastered all skills and gained the necessary experience at their current rank to be considered for promotion.³ In addition, Sailors must show potential to take on more responsibility and authority. Perhaps even more important, the higher the rank, the more that managerial skills are required to be successful in the position.

On one hand, HYT allows the Navy to separate Sailors whose skills and abilities no longer align with the Navy's needs. On the other hand, HYT limits the Navy's ability to keep experienced Sailors who perform certain nonmanagerial skills. In particular, HYT limits the number of Sailors who can stay in the Navy who are excellent technicians with a lot of experience. HYT requires that they must move into the more managerial positions (ranks) in order to promote and stay in the Navy.

The Navy also limits the percentage of its force that can hold the top 6 enlisted ranks (E4–E9). Top-6 limits are set during the budget process, when the Navy decides on the top 6 it is willing to fund.⁴ This personnel policy also limits the Navy's ability to keep experienced Sailors who perform certain nonmanagerial skills.

Finally, minimum time-in-service and time-in-rank policies are designed to ensure that Sailors have minimum levels of experience at each rank. The current distribution of Sailors across ranks is predominantly a function of policies that dictate minimum time-in-service, time-in-rank, HYT, and top-6 policies.

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3. The Navy must also abide by DoD restrictions on minimum time in rank (TIR). BUPERSINST 1430.16E (7/25/01) provides information concerning minimum TIR and DoD minimum Total Active Federal Military Service (TAFMS) necessary for promotion.
 4. There are legal limits on the number of E8s and E9s that the Navy can have in inventory.

The compensation system

Pay and rank

The closed personnel system is supported by a compensation system that closely ties pay to rank. The largest increases in pay over the course of a Navy career occur when Sailors promote to the next rank. By contrast, increases in pay are much smaller as Sailors gain experience over time in the same rank. At some point, additional experience in certain skill areas is simply not compensated. As a result, experienced Sailors with certain key technical skills have limited ability and/or incentive to stay not only because of HYT policies but also because of the pay/rank system.

Retirement

The military retirement system has a 20-year cliff-vesting point. Sailors receive no active duty retirement pay if they leave active duty before 20 years of service; however, on achieving 20 years, Sailors are fully vested in the retirement system and can receive retirement benefits immediately when leaving the Service. In general, the military's active duty retirement system excludes the vast majority of Servicemembers who leave before reaching 20 years of service.⁵ The only portability of savings is through the federal government's Thrift Savings Plan, and military members face lower maximum contribution amounts and employer matching than their civilian counterparts due to the design of the military retirement system.

Clearly, the retirement system also helps shape the inventory profile. Retaining Sailors beyond their initial obligation, usually from 4 to 6 years of service, is not helped by the prospect of retirement pay that will be available only after fulfilling 20 years of service.

By contrast, retaining Sailors from roughly 10 years of service to 20 years of service is helped by the prospect of retirement pay that is immediately available after 20 years of service. And, although a

5. If a Sailor does not stay in the active component for 20 years, he or she may be able to join the Reserve and may eventually be eligible for reserve retirement.

retirement system that provides little incentive to leave between 10 and 20 years of service is potentially a useful retention strategy in a closed personnel system, the Navy can end up with too many Sailors with 10 to 20 years of service, at least in certain ratings. These Sailors cannot necessarily be used to fill gaps in the manpower/personnel profiles that occur at less than 10 years of service.

Finally, the retirement system provides only modest incentives to stay from 20 to 30 years of service. This feature of the system does little to help create a more senior force.

Recruiting bonuses, retention bonuses, and special pays

The Navy has other compensation tools that help shape the inventory of Sailors in its closed personnel system. At the front end of the closed system, recruiting bonuses are offered to encourage recruits to take training in difficult or hard-to-fill job specialties.

As Sailors are completing their first or second contractual obligation to the Navy, retention bonuses are offered in key specialties to retain enough Sailors to fill mid-level positions. In exchange for the bonus, Sailors agree to stay in the Navy for a specified period of time and fill positions in critical areas. In a closed system, retention bonuses are an alternative to bringing in even more new recruits in order to fill mid-level positions in the future. Retention bonuses also could provide an alternative to lateral entry if the response rate to the bonuses is sufficiently large.

Finally, special pays are used throughout the personnel system to compensate for acquiring particularly challenging skills, undertaking riskier tasks, or filling hard-to-fill positions. Examples of special pays include foreign language proficiency pay, diving duty pay, hazardous duty incentive pay, and career sea pay. Like retention bonuses, special pays can be an alternative to increasing the recruiting mission or to providing lateral entry to the personnel system.

The future manpower profile

Technological changes and emerging threats

While the Navy continues to grapple with the existing challenges of a closed personnel system, new challenges are imminent. A transformation of the Navy's manpower requirements is under way in response to new technologies and different kinds of emerging threats. Manpower requirements will shift away from the current, pyramid-shaped rank structure to one that has increased requirements for highly skilled technicians at the middle ranks and fewer requirements for unskilled, very junior laborers. A key strategy to meet these changing requirements is to reduce the size of the enlisted workforce, with those remaining being more experienced, better educated, more skilled, and higher performers than ever before.⁶

Technological changes in the Navy are altering the requirement for people in two ways. First, new platforms and systems are being developed for operation with smaller crews. New platform designs limit the need for junior, relatively low-skilled Sailors, while the remaining Sailors will need to be more skilled and experienced than ever. References [2], [3], [4], and [5] describe future Navy platforms and the multiskilled, technologically savvy crews needed for their operation.

Second, emerging requirements may need to be filled quickly by experienced personnel in fields for which the Navy does not provide training. Examples in the past include the sudden demand for computer network administrators (a Navy Enlisted Classification, or NEC), for which there were no billets authorized in FY 1996 but for which there were over 2,300 billets authorized by FY 2000. More recently, the demand for Masters at Arms (MAs) increased significantly in a very short period of time. From September 11, 2001, to the end of FY 2006, the number of MA billets authorized increased from about 2,400 to about 11,000—an increase of over 350 percent.⁷

6. Flexibility in meeting these new requirements is also necessary. We discuss this idea in the next section of the paper.

7. Source: Total Force Manpower Management System (TFMMS).

Reference [2] contains the authors' surveys of new platform and technology initiatives. They include information from interviews with scientists, human factors engineers, manpower experts, Navy officers from research program offices, Naval Warfare Centers, and resource sponsors. References [3], [4], and [5] also examine the attributes of the future Navy workforce. The authors conclude that:

- Sailors will need to be more technologically skilled, with a substantially greater breadth of knowledge across more disciplines. In particular, see references [2] and [3].
- The workforce will be more experienced and will include recruits with job experience in the civilian sector [4].⁸
- Training will need to be more effective and efficient, meaning fewer Sailors in formal schoolhouse training and fewer personnel in training billets. More training will be online and on the ship [5].

The process of reducing endstrength has already begun. Between 2005 and 2011, the Navy is expected to reduce active duty enlisted endstrength by over 28,000 Sailors, representing 9 percent of the force.⁹ In contrast, the process of allowing more seniority in the enlisted force has not been realized; according to the Total Force Manpower Management System (TFMMS) database, the seniority of the billet structure is expected to change little through 2011.¹⁰

Changing mix of paygrade and experience

The transformation will affect the Navy's manpower composition in two significant respects—the paygrade (or rank) distribution and experience levels. To describe some of the proposed changes in the

8. These findings about future personnel can also be applied to filling emerging requirements quickly.

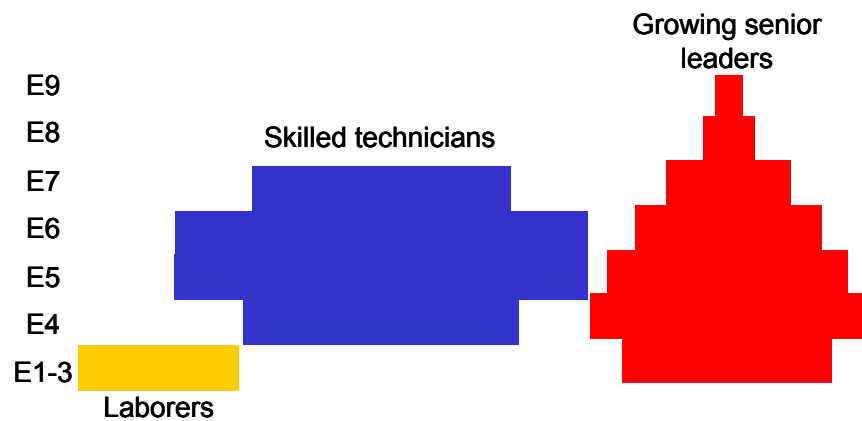
9. Source: Reference [6].

10. Drawing down the force leads to a temporary increase in seniority, assuming that the Navy disproportionately cuts accessions. However, once the drawdown is complete and a stable endstrength is reached, the extra seniority will go away over a period of a few years.

structure of the force with regard to paygrade, we draw on terminology from the civilian skilled trades. Specifically, we refer to unskilled or low-skilled Sailors in training as *apprentices* (E1–E3), skilled Sailors doing technical jobs as *journeymen* (E4–E6), and senior enlisted, who are largely in leadership positions, as *masters* (E7–E9).

What will the paygrade distribution look like in the future? We rely on analysis presented in [2] for guidance. In terms of the types of skills and jobs implied by paygrade, there will be far fewer apprentices, far more journeymen, and most likely a similar proportion of masters/leaders as in the current paygrade structure. Figure 3 illustrates the three components of future Navy manpower requirements.

Figure 3. Proposed shift in Navy enlisted manpower^a



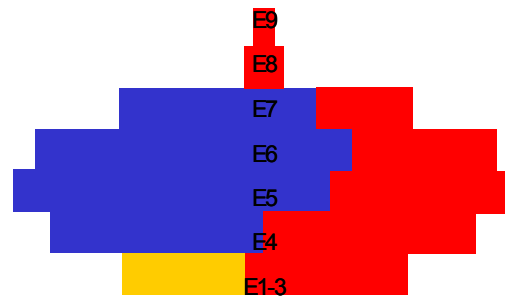
a. Source: Reference [7].

This scenario depicts (a) a significant reduction in the need for unskilled Sailors, (b) a greatly increased requirement for skilled technicians in the middle paygrades, including E7, and (c) a requirement for a cadre of senior leaders.¹¹

11. Reference [2] presumes that the current process of deriving senior leaders exclusively from the pool of Sailors who spend a full career in the Navy will continue. This assumption does *not* apply to journeymen.

Combining the three separate functions results in the future pay-grade structure of figure 4, which compares directly with figure 1.

Figure 4. Future enlisted manpower structure^a



a. Source: Reference [7].

The experience level of Sailors will also change as the workforce transformation occurs. Currently, most Sailors access when they are less than 21 years of age, so years in the Service is a close proxy to total years in the workforce.¹² Thus, paygrade is a fairly accurate indicator of general Navy experience and, to a somewhat lesser degree, of Navy occupation-specific (i.e., rating group) experience.¹³ Enlisted paygrade is not affected much by additional civilian or Navy training. In general, Sailors are not promoted for earning additional subspecialty training (known as NECs), for earning postsecondary degrees or other civilian credentials, or for relevant civilian experience.

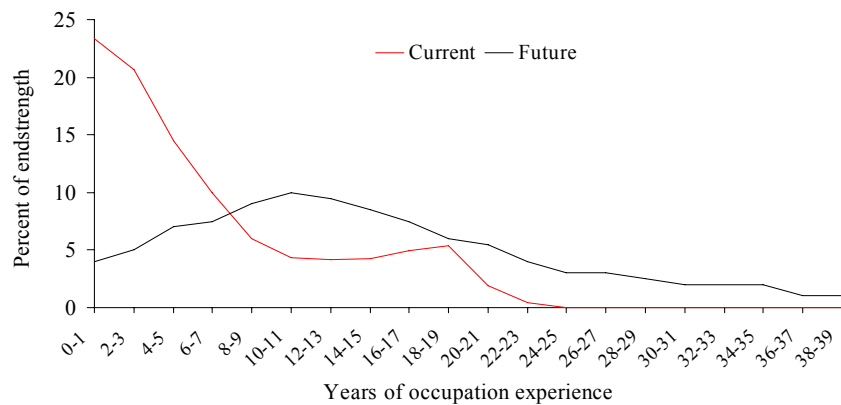
12. Seventy-five percent of NPS recruits have consistently been under the age of 21 for the past decade.

13. Even with fairly strict career progression rules and regulations, there can be exceptions to the experience/paygrade relationship. For example, when Sailors cross-rate into a rating for which they have no experience, they are not reduced in rank. As a result, the rank of these Sailors will not reflect rating group experience. Also, there is still some variation across rating groups in the experience/paygrade relationship. For example, the median time to reach rank E4 varies across rating groups from 7 months to 49 months.

In the new personnel environment, worker experience will no longer implicitly mean Navy-specific experience. The new environment will consider training, education, or civilian experience acquired before entering the Navy. The personnel management strategy implies that more recruits will access with relevant civilian experience and that Sailors will spend less time in training when they first access.

In figure 5, we compare the experience levels of the current workforce with what reference [7] envisions in the future Navy workforce. Note that years of occupation experience is on the horizontal axis, not years of Navy service. For the current workforce, years of service serves as a proxy for this metric. Figure 5 also includes the graph of the current workforce in figure 2 to illustrate the difference in the current and expected future experience profile Sailors.

Figure 5. Future experience levels of Navy Sailors



The future Navy experience profile more closely resembles that of the civilian workforce, as illustrated in figure 5. This means that Sailors who access with no relevant experience will need to remain in the Navy longer than they currently do, or more recruits with civilian experience will need to access, or some combination of the two will be necessary.

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Current force-shaping tools and their limitations

The Navy faces several recurring challenges in its personnel system. First, the Navy does not consistently retain enough Sailors in some occupations to fill the mid-grade requirements. Because the personnel system is closed and no lateral entrants are allowed to fill mid-grade requirements, this can create “gaps” between the manpower requirements and the personnel inventory.

Second, there are emerging requirements for which the Navy cannot plan in advance. The ever-changing nature of warfare and technology makes it impossible for the Navy to recruit and train Sailors today who will have exactly the skills and experience level necessary years later. Emerging requirements create gaps in the manpower and personnel profiles as well.

Finally, the expectation for the future Navy workforce is that it must become more senior and more experienced than today’s workforce. Personnel management strategies will have to be developed to meet this need. In this section, we discuss some of the current force-shaping tools and how they may be insufficient to close the inventory-manpower gaps and to shape the force of the future.

Current tools

To meet these management challenges, flexible force-shaping tools are necessary. These tools must affect Sailor retention behavior, address personnel shortfalls due to emerging requirements, and ultimately support a move to a more senior, more experienced force. Current force-shaping tools, however, have been built to support an inflexible closed, up-or-out personnel system. As a result, they are not flexible enough to meet these personnel management challenges.

SRBs

To increase Sailor retention in targeted skill areas, the Navy can institute or increase an existing selective reenlistment bonus (SRB). Under the SRB program, Sailors with particular skill sets in ratings with low retention can agree to reenlist for another term in exchange for a monetary bonus. Unlike some policies used to increase retention, such as increasing basic pay, SRBs allow the Navy to target Sailors with specific skills. Thus, SRBs are considered to be one of the most cost-effective ways to fill specific skill gaps. SRBs can also increase retention fairly quickly. In general, SRBs are an efficient way to increase retention to close manpower/personnel gaps.¹⁴

SRBs do have limitations. Although they are quick to fill certain gaps, SRBs are difficult to decrease or eliminate when retention improves. In fact, they become expensive in ratings that already have high retention.¹⁵ Recent studies have found that using SRBs to increase retention is only cost-effective for the few ratings with relatively high training costs or high readiness benefits of experience (see [8, 9]).

Similarly, SRBs cannot be used to fill emerging needs. Emerging needs are hard to fill precisely because there is not a large enough group of junior Sailors who have the right training and experience to fill the need. At best, SRBs could be offered to Sailors who could be trained to fill the emerging need; we expand on this concept in our discussion of Perform-To-Serve (PTS) Sailors, which follows.

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14. In general, young Sailors must make their first decision about whether to continue in the Navy at about 4 to 6 years of service. If Sailors choose to stay for a second term, which typically is completed before the pull of retirement pay is strongest, they must make another decision to continue to serve. In certain key occupations, especially skilled ones, too few Sailors choose to stay to meet the mid-grade requirements.
 15. SRBs are paid to all with a particular skill and experience mix who reenlist, regardless of whether they would have reenlisted in the absence of an SRB. Thus, the higher retention is in the absence of SRB, the higher the number of Sailors who will receive an SRB who would have reenlisted anyway. Retention levels can shift over time for a given level of SRB, but SRB policy cannot always adjust quickly to these changes in retention.

Faster promotions

Faster promotions are another option to fill gaps in mid- to senior-level paygrades. However, accelerated promotions to the middle and senior grades can (at least temporarily) leave unplanned gaps in lower paygrades that must be filled. In addition, the collective experience of Sailors at these mid- to senior-level paygrades is significantly lowered. It is well established that experience is an important component of readiness (see [10, 11]).

Moreover, promoting Sailors faster is not an adequate tool to address emerging needs if a pool of junior Sailors with the necessary skills does not exist. As we have already mentioned, the IT and MA ratings provide excellent examples of emerging needs. Neither of these ratings had a sufficient pool of junior Sailors to advance to satisfy the Navy's emerging requirements. In fact, the MA rating had traditionally been a nonrecruitment, Petty Officer rating, open only to E4 or E5 Sailors in other ratings who were willing to convert.

Perform-To-Serve (PTS) program

In cases where SRBs or faster promotions are ineffective for addressing mid-grade gaps between manpower needs and the personnel inventory, PTS may be a useful policy tool. Reference [12] provides a thorough review of the program. PTS provides qualified Sailors in overmanned ratings the opportunity to reenlist into undermanned ratings. PTS Sailors' time to train will be at least 3 months shorter than that of a new recruit (the time spent in boot camp), and perhaps training time can be reduced even more if there is some overlap in the skills required in their old and new occupations. However, PTS is limited in that it cannot provide Sailors with years of experience in the new rating. In other words, PTS cannot provide the Navy a group of workers who have the appropriate combination of skills and experience to fill its manpower needs quickly.

High-year tenure (HYT) and time-in-rank

HYT provides promotion opportunities for more junior Sailors, which can help increase retention. However, a major limitation of the policy is that Sailors with rank E6 must retire after 20 years of service,

while Sailors with rank E7 must retire after 24 years of service. Although Sailors with rank E8 and E9 can stay to 26 and 30 years, respectively, figure 2 illustrates that at present there are very few Sailors with more than 25 years of experience, regardless of rank. This phenomenon is due in part to HYT policies.¹⁶

The HYT policy greatly restricts the Navy's ability to increase the experience level of skilled technicians. Because most E7s are NPS Sailors, and most accessed before age 21, most of these skilled technicians have to retire by age 45. In addition, since years of service is highly correlated with years of occupational experience, years of occupational experience is also constrained to no more than 24 years. To stay longer, these technicians must be promoted to leadership positions.

The time-in-rank (TIR) and Total Active Federal Military Service (TAFMS) guidance helps ensure that the uniformed Services meet the minimum training and experience levels for each rank.¹⁷ TIR and TAFMS, however, impose limitations on creating the more senior, more experienced force of the future. Specifically, the policies restrict the Navy from recruiting Sailors with experience in the civilian sector to junior paygrades and promoting them more quickly based on that civilian experience.

Limitations of the compensation system for achieving the future force structure

The military compensation system in its current form will make it difficult to achieve a new force structure that includes a more highly skilled, more technical, and more experienced workforce. Reference [13] describes compensation policies that are inconsistent with Navy manpower and personnel strategies now and in the future. We summarize several of the limitations for achieving a more senior force.

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16. Top-6 restrictions and the compensation system also contribute to the small proportion of the force that has 25 or more years of experience.
 17. The Services are not always in complete compliance with TIR/TAFMS guidance. Some Sailors advance without meeting these minimums. As of June 2005, 2,700 E6 Sailors had less than 7 years of service; 177 of these were not in the Nuclear Field (source: Enlisted Master File).

Increases in pay tied to promotion

A large portion of a Sailor's total compensation is based on basic pay, which, in turn, is based on paygrade. This means that a large part of increases in pay is tied directly to promotion. Skills and experience gained while in a particular paygrade may not be fully compensated for until promotion to the next paygrade. In the next paygrade, however, those skills may not be used extensively.

The proposed paygrade structure implies that highly skilled and experienced Sailors would not have to promote to leadership but could remain as valuable technicians at the E6/E7 level. If current compensation system does not change, compensation for these non-managerial E6s/E7s, including retirement benefits, is constrained to be below that of senior enlisted leadership. Even if enough E6/E7 nonmanagerial Sailors are willing to accept this inequality, HYT policies as currently written could force them to separate from the Navy before it is in the Sailors' or the Navy's best interest to do so.

Another feature of the promotion/compensation connection is that promotion (and therefore increased compensation) is allowed only when vacancies occur at the next highest paygrade. Thus, advancement in this type of system can artificially constrain the compensation of Sailors with much-needed technical skills. In other words, the Navy does not have a way to compensate Sailors *in grade* for acquiring additional training and experience.

The retirement system

The military's cliff vesting retirement system also reduces flexibility because it creates a large incentive to retain Sailors between 10 and 20 years of service and little incentive to remain after the fully vested 20-year milestone. Even if other policies were changed to allow more experienced Sailors to remain in the Navy longer, such as relaxing the HYT rules, the Services' retirement benefits would encourage few to stay beyond the 20-year mark.¹⁸

18. See [14] for a comprehensive review of the military retirement system and its effect on personnel retention behavior.

Compensation reform

The compensation law and many of the compensation policies apply to all of the Services, not just the Navy. To consider a more general approach to compensation reform, we turn to a report by the Defense Advisory Committee on Military Compensation (DACMC) [15].

We believe that the DACMC report clearly and comprehensively summarizes the *framework* in which to implement compensation reform. It also clearly and comprehensively summarizes changes to the compensation system that would create a more flexible personnel management system. These are worth repeating here in abbreviated form. The framework that the DACMC maintains is appropriate for any reform recommendations is as follows:

- **Force management.** Changes to the compensation system should be linked to force management objectives.
- **Flexibility.** The compensation system should be able to adjust quickly to changes in circumstances affecting the supply and demand for personnel in general and for specific skills.
- **Simplification.** A change that simplifies the compensation system, rather than one that makes it more complex, difficult to manage, or difficult to understand, is preferred.
- **Systems approach.** A change in compensation should consider all the implications for incentives and force staffing in both the active and reserve components.
- **Choice, volunteerism, and market-based compensation.** Where possible, preferences of individual members should be considered in making policy, and compensation should support policies that consider member preferences and provide choice.
- **Efficiency.** Proposed compensation changes should be “efficient” (i.e., of alternative ways to meet the objectives associated with the proposed change, the least costly should be chosen).
- **Cost transparency and visibility.** The full costs, over time, of proposed changes to the compensation system should be clear.

- **Leverage.** Where possible, compensation improvements should leverage existing benefits in the civilian or other sectors of the economy, rather than crowd them out.
- **Fairness.** Commitments should be honored and any changes to those commitments should be freely entered into by mutual agreement between the services and the members.

With these guiding principles in mind, the DACMC makes specific recommendations, which include the following:

- Make changes in the basic pay table to better reward performance and to support longer career profiles where desirable:
 - The pay table should become a function of grade and time in grade, rather than grade and years of service (i.e., [it should] more appropriately compensate for needed skills and experience).
 - Time-in-grade increases in basic pay should be extended beyond the career lengths currently implied by the time-in-service pay table.
 - HYT policies should be reassessed. For those occupations where HYT constraints have been related to encourage longer careers, the time-in-grade increases should provide a financial incentive consistent with longer service. This change will complement retirement system changes that provide incentives to stay beyond 30 years.
- Make substantial changes to the structure of the active component nondisability retirement system:
 - [Establish] a government contribution to a thrift savings plan or 401(k)-like plan that adds a percentage of basic pay, in the range of 5 percent, to the member's contribution.¹⁹

19. Government contributions would begin to accumulate upon entrance to active duty and would vest no later than the 10th, but not before the 5th, year of service. After vesting, the member who remains on active duty should have the flexibility to receive the government's new contribution in cash, in lieu of the thrift savings plan contribution.

- [Offer] a retirement annuity that begins at age 60, computed under a formula similar to the current retirement annuity. The annuity would vest at the completion of 10 years of service.
 - The annuity formula would be extended through 40 years of service, so that a member serving 40 years would receive 100 percent of the high-three average of basic pay.
 - The retirement health benefit would continue to vest at the completion of 20 years of service.
 - [Offer] additional offsetting compensation, in the form of current rather than deferred compensation, that is sufficient to achieve force-shaping goals. This additional compensation could come in various forms.²⁰
- Other recommendations include:
 - Make changes in the system of housing and other allowances to remove variations in pay unrelated to performance or a member's value to the service.
 - Consolidate, simplify, and enhance special and incentive pays.
 - Revise the system of health benefits for pre-age 65 retirees to increase the cost share borne by retired members and their families.
 - Correct the incentive in the current system that induces retirees to choose TRICARE coverage over employer-provided health benefits, and better leverage civilian-sector benefits, [including] periodic evaluation of quality-of-life programs, to ensure that these programs are

20. Examples include (1) transition pay of limited duration for those who leave military service after the vesting point, where the amount of duration of the pay is a function of the paygrade and years of service at separation; (2) additional pay or a bonus that is a multiple of basic pay and payable at key years of service, such as 10, 15, 20, 25, and 30 years (the member receives this pay, sometimes called "gate pay," on completing the relevant year of service); and (3) an increase in basic pay or bonuses.

cost-effective and focused on alleviating the most onerous aspects of military life for members and their families.

- Review the system of reserve component pay and benefits to ensure that reserve members called to active duty receive the same pay and benefits as active component members and that they have an improved opportunity to continue their civilian health benefits while on active duty.

The DACMC authors are very clear to point out that the guiding principles and the specific compensation reforms recommended would in fact allow for lateral entry. They write [15]:

Another consequence of the existing pay table is that, because compensation is a function of tenure in the system, it will be difficult to attract lateral entrants into the system should it become important to do so. Similarly, it will also be difficult to be financially attractive to individuals with prior military service who have been in the civilian sector for more than a short period.... [In addition,] a time-in-grade pay table will be more attractive to individuals with prior service who are considering reentry, as well as to lateral entrants in selected skills, because pay is tied less to tenure.

We concur with these conclusions. Realistically, these recommended changes to the pay/compensation system will have to be made before a large-scale, robust lateral entry effort can take place.

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Lateral entry as another management tool

Efforts to respond in new ways to current personnel management challenges—retention and emerging requirements—plus efforts to reshape the workforce for the future must be accompanied by a substantial rethinking of Navy manpower in general. It will require significant modifications to the way the Navy currently recruits, trains, retains, promotes, and compensates Sailors. It also requires a more flexible manpower system in which gaps are filled quickly, emerging needs are rapidly addressed, and the transformation of the skill mix from less to more skilled is accomplished smoothly. We discuss one option for enhancing flexibility—lateral entry.

How does lateral entry work in the civilian workforce?

Civilian-sector lateral entry is a process by which an employee is hired and placed into a position that is above entry level. The appropriate level at which a lateral entry employee may enter is a function of the person's relevant education, training, and experience.

The term *pretrained* has also been used to refer to the recruitment of lateral entrants. The distinction is that pretrained recruits are a subset of lateral entrants. Both types of recruits have the necessary training or education, but pretrained recruits have little or no relevant experience, while the experience of lateral entrants can run the full range between apprentice and master. For much of the lateral entry analysis in this study, we consider only workers with relevant experience.

Most businesses expect job applicants at all levels to have the necessary general skills—that is, those skills that are easily transportable to other businesses—before being hired. General skills in certain occupations may be more extensive than in others. For instance, jobs in the legal, medical, and teaching fields require all applicants, including entry-level ones, to have the general training provided by an

undergraduate, or even postgraduate, college degree. This is less true in occupations for which general training can be accomplished on the job, and in a short period of time. Two examples of these types of occupations are waiting tables and retail sales.

Indeed, businesses are usually not willing to provide lengthy general training for employees because most civilian-sector employment is “at will.” At-will employment is a relationship in which either the employer or the employee may lawfully terminate the employment relationship at any time, for any reason, with or without notice. Thus, in at-will employment arrangements, employers cannot compel employees to remain with the firm long enough to recover the costs of general education or training.^{21, 22}

Because general education is required for a significant number of jobs in the civilian sector, lateral entry depends more on a candidate’s relevant experience than on education.²³ In particular, businesses look for occupation-specific experience. In some cases, a combination of occupation and industry-specific experience may be required. For instance, accountants (an occupation) may be able to transition (lateral) in and out of the manufacturing, construction, or transportation industries with little or no loss of seniority. However, lateral entry for customer service representatives would tend to depend on both occupation and industry-specific experience.

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21. According to [16], almost all states presume that civilian employers have an at-will employment relationship.
 22. Businesses do not typically expect applicants to have firm-specific knowledge before being hired. Firm-specific knowledge and skills are not broadly transportable from one employer to another, even in the same industry or occupation. An example of firm-specific knowledge is the ability to operate specific pieces of machinery unique to the employer. Firms must train employees in these firm-specific skills.
 23. Even businesses that require firm-specific knowledge and skills for lateral entry are implicitly requiring a certain level of relevant experience, vice formal education, since these skills are not taught in most colleges or technical schools.

Lateral entry in the military personnel system

For the Navy, we define lateral entry as a personnel management process that allows workers who have the relevant skills and prior work experience to enter the Navy personnel system at a level commensurate with their skills and experience.

While the military definition of lateral entry may look similar to that in the civilian sector, the military is counter to the business model of lateral entry in three important respects: (a) lateral entry into the military is the exception to the rule, (b) the age of the employee cannot legally be used as a screen for lateral entry in the civilian sector, and (c) the military places minimal value on experience that is occupation (rating group) specific. We discuss each of these in turn.

Unlike in the civilian sector, lateral entry in the military, especially in the enlisted ranks, is the exception to the rule. This is because the military prefers to recruit young people and provide them with all of the training necessary to perform their job, including both general Navy training and rating-specific training.²⁴ The Services have a mechanism to recover some of the training costs because the military is not an at-will employer. Longer terms of enlistment are required for occupations that require longer training pipelines.

The military is also unique in its age-based prohibitions against lateral entry. In particular, the Navy restricts enlisted recruits to those under the age of 35. Prior-service (PS) accessions must be able to complete 20 years of service by age 55 (see [17]).²⁵ In contrast, it is illegal for businesses to discriminate in hiring on the basis of age.

24. Examples of training in the military include the general training all recruits receive in boot camp, as well as technical training on military-specific equipment, such as weapon systems. Examples of general training include mathematics, electronics theory, and foreign languages.

25. Although the 2006 National Defense Authorization Act increased the maximum age of enlistment from 35 to 42 years, the Navy continues to cap the age of active duty recruits at 35 years.

Finally, the military is unique in that occupation-specific (rating group) experience appears to be heavily discounted, especially in the enlisted ranks. To some degree, this practice is based on the notion that a large portion of the jobs of mid- and senior-level Servicemembers—largely leadership positions—can only be learned by moving up through the ranks. And this argument has some merit when considering how to evaluate the occupational experience of a lateral entrant who does not have prior military experience. However, as we show later, there is some evidence that the Navy may be discounting the prior Navy training and experience of Sailors who return to active duty service.

Summary of past experience with military lateral entry

We have already defined some specific goals of lateral entry in the Navy: to fill gaps, to respond quickly to emerging manpower needs, and to transform the Navy into a more experienced, technically skilled force. Other goals for lateral entry exist, such as reducing the cost of training or expanding recruiting markets. Indeed in the past, military services have often attempted lateral entry precisely to lower the cost of training or to expand into new recruiting markets. Defining and understanding the specific goal(s) is important because, in large part, they are the driving force behind the feasibility and magnitude of lateral entry efforts.

The various goals of lateral entry do not always coincide. For instance, some lateral entry programs that are intended to fill manpower gaps quickly may not cost less than the traditional, promote-through-the-ranks strategy, but they may be the fastest way to close the gaps. Likewise, inexpensive strategies to expand into new recruiting markets may not produce enough lateral entrants to keep pace with emerging requirements.²⁶

26. At the request of our sponsor, we do not compare the costs associated with different types of lateral entry. Instead, in a later section of the paper, we consider the compensation that the Navy would have to offer to lateral entrants to be competitive with private-sector occupations.

The degree of success of these efforts depends on the goal or specific reason that the lateral entry program was created to address, the military and civilian incentives established to support and promote the program, and the commitment and efforts of senior leadership to ensure that these programs succeeded. The Navy and other branches of the military have made limited attempts to recruit non-PS (NPS) lateral entrants with largely disappointing results.

In many of the attempts at lateral entry, the Services focused on the pre-trained lateral entry market, whereby the recruits completed training before joining the Service but in many cases had little job experience. This is because the goal of many of the programs was to cut training costs or to expand (marginally) recruiting markets. Although this study focuses on lateral entrants who have job experience beyond initial training, we find it useful to summarize what the Services have done in the past, including their experiences with pre-trained recruits.

While few in number, the Army and the Navy conducted most of the historical enlisted lateral entry experiments. Recently, however, as part of the Coast Guard's Human Resource Future Force plan, "Lateral Entry for Strength Based Organization," the Coast Guard has been working with the National Skill Standards Board to:

build a voluntary national skills standards system to equip workers with "portable" skills and certifications they can use to get as many different jobs in as many different industries as possible. The Coast Guard's lateral entry program/tool will be based on this premise and enable the resource systems to compare skills sets from as many different jobs and industries [as possible] and determine what skill sets from the non-prior military recruits are "portable" to the needed Coast Guard's skill sets.²⁷

In addition, according to [18], the Canadian forces began a lateral entry program in 2002 targeted at 20 occupations. By the end of January 2003, 27 percent of the total number of recruits into those occupations were lateral entrants. Since the Coast Guard and Canadian

27. Source: <http://www.uscg.mil/ff21/lateral%20entry.htm>.

efforts are relatively new and ongoing, they have produced few results or lessons learned.

Army experiences

The Army has experimented with enlisted lateral entry in various forms. In 1991, it conducted an experiment to recruit pretrained civilians into Military Occupational Specialty (MOS) 63B10, Light Wheeled Vehicle Mechanic. Civilians recruited into this program with high school or vocational training attended an abbreviated Advanced Individual Training (AIT) course for the MOS that was reduced by 9 weeks in length (see [18]). Their performance on the MOS Qualification Test was compared with that of those recruited with no prior experience and who attended the normal, longer training pipeline. The study found that civilian-trained recruits did as well as or better than the other recruits on the MOS test, and that the shortened AIT did not degrade Soldier effectiveness in the field.

According to [18], the program was never implemented because recruiters did not have an incentive to target these types of recruits, and no recruiting goals were set. The authors argue that the Army Civilian Acquired Skills Program (ACASP) program offered advanced paygrade, accelerated promotions, and certain enlistment bonuses, which decreased the attractiveness of the AIT program.

The ACASP allows the Army to recruit pretrained civilians and to offer them advanced paygrade on accession (up to E5), often with accelerated promotion, and with reduced or no additional Army technical training beyond boot camp. The program includes 98 different MOSs, many of which are either musician or medical assisting specialties. However, at least half of the MOSs include other types of occupations, such as radio operator, land combat electronic missile systems repairer, metal worker, machinist, journalist, laundry and bath specialist, and heavy construction equipment operator (Army Regulation 601-210). According to Mr. Todd Rohrer at United States Army Recruiting Command (USAREC), in FY 2004, 374 civilians were recruited through ACASP into the Regular Army, and 342 were recruited into the Reserves.

Although ACASP has been in existence for at least a decade, an exhaustive search of the literature yielded no research of the performance of ACASP recruits or its cost-effectiveness. According to [18], however, the Army does have plans to review ACASP.

Navy experiences

A few lateral entry programs for enlisted Sailors have been considered over the past 20 years. Perhaps because not everyone agreed that lateral entry was necessary or desirable, however, none of these programs was successful on any meaningful scale. There may have been a belief that opening the closed personnel system was not necessary, or there may have been cultural suspicions about those who did not come up through the Navy personnel system.²⁸

LEAP

In the 1980s, the Navy conducted an experiment called the Lateral Entry Accession Program (LEAP), under which civilians could be recruited into a number of different ratings at paygrades E4 to E6. The experiment was a failure because instruments used to test the skills and knowledge of entrants were flawed. In particular, the tests were designed to assess the recruit's knowledge of theory that most likely would have been learned in vocational or technical school years earlier. More appropriately, the test was also designed to assess the types of skills and knowledge that are normally acquired only through lengthy on-the-job (OTJ) experience.

Relatively few test takers could be accessed at a Chief Petty Officer rank because of the requirement to pass both the theory and the OTJ components of the test—something that active duty Chief Petty Officers would have struggled with as well. Many test takers were accessed instead as Petty Officers, so the Navy realized very little benefit from recruiting these highly skilled and experienced people. According to

28. Recall that the term *pretrained* has also been used to refer to lateral entrants. Note that pretrained recruits have little or no relevant experience, while we expect that lateral entrants have at least some, if not extensive, job experience.

[19], the experiment produced very few accessions, and the program was never implemented.

DPEP

The Navy then developed the Direct Procurement of Enlisted Personnel (DPEP) program, in which recruits can be accessed at an advanced paygrade in “critically staffed Navy ratings” with no Navy technical training beyond boot camp. Recruits with vocational training only and no experience can be accessed up to paygrade E3. Recruits with civilian training and/or 1 or more years of experience can be accessed up to E7 (see [17]).

According to personnel at Navy Recruiting Command, however, the Navy has never used the DPEP program for more than one or two ratings, accessing fewer than five recruits each year. In particular, this is the only way the Navy recruits morticians, an NEC within the Hospital Corpsman rating, because no Navy school exists for this specialty.²⁹

HM experiment

In FY 1996, CNA worked with the Commander, Navy Recruiting Command (CNRC) to establish a pilot program to recruit pretrained Hospital Corpsmen (HMs) with civilian certification into the enlisted ranks. We briefly summarize the experiment here; details are found in [20] and [21].

The experiment was unique because it was intended to address three goals of lateral entry simultaneously. Specifically, it was designed to (a) help recruiters break into the high-quality community college market, (b) reduce the costs to train HM specialties, and (c) reduce the time it takes to get entry-level HM specialists into the fleet.

The pilot program consisted of recruiting graduates from civilian accredited programs comparable to the Navy training in either of two HM NECs: 8452 (Advanced X-ray Technician) and 8506 (Medical Lab Technician, Advanced). The experiment was later expanded to

29. This information was obtained through correspondence with Mike Evans, Navy Recruiting Command.

include NEC 8483 (Surgical Technologist), NEC 8482 (Pharmacy Technician), and Dental Hygienists (a Dental Technician (DT) specialization).

The HM rating was chosen as a starting point because many of the Navy C-schools are accredited by civilian accrediting bodies. This ensures that both the quality and content of the civilian training is sufficient to satisfy all of the Navy's requirements for those specialties. The first two NECs were chosen because each had a significant number of billets authorized and lengthy C-school training (approximately 52 weeks of instruction for each). Because of the shared accreditation of the programs, the Navy awarded each Sailor the relevant NEC upon successful completion of boot camp and HM A-school, without additional training or testing.

At that time, HMs were neither difficult to recruit nor retain. In fact, HMs experienced a slow rate of promotion. For those reasons, attempts were unsuccessful to secure an Enlistment Bonus (EB) to attract these recruits or advanced paygrade beyond E3—the rank that all college recruits are awarded who enter with at least 45 semester hours of college credit. Because they were able to save about a year of C-school training, however, they incurred a 4- vice 5-year obligation.

Early in the experiment, CNRC set a goal for 6 of the 31 Navy Recruiting Districts (NRDs) of recruiting 50 X-ray Technicians and 25 Medical Lab Technicians, and it requested that all NRDs participate in the program. Seven months later, around the time the additional NECs were added, the Navy dropped the “experiment” label and the goals, and instead urged all recruiters to recruit qualified people from the community college market, in general, and to recruit pretrained people in the five HM and DT specialties. Finally, at that time, pretrained recruits in these ratings became eligible for the Navy College Fund, and pretrained Dental Hygienists were offered a \$2,000 enlistment bonus or Navy College Fund (but not both).

The removal of goals for these pretrained recruits was perhaps the largest contributing factor to the sharp reduction in pretrained recruits into these NECs. In the first 8 months of the experiment, while the 6 NRDs were still goaled, the Navy recruited 21 pretrained

HMs; only 8 were recruited in the following 10 months. CNA stopped tracking the experiment after that time.

While the sample sizes are small, the performance of these recruits is quite impressive. In particular, the following statements can be made of the 25 who shipped to boot camp (resulting in Delayed Entry Program (DEP) attrition of 14 percent—slightly lower than the overall 18-percent DEP attrition of all A-cell recruits in FY 1996):

- None attrited during boot camp.
- None attrited during A-school.
- 90 percent graduated in the top half of their HM A-school class.
- 12 percent attrited within 48 months, significantly lower than the 28-percent 48-month attrition of all HM recruits in FY 1996.

Their low A-school and first-term attrition is consistent with the findings of [22]. Recruits with an Associate degree have high Armed Forces Qualification Test (AFQT) scores, high rates of training completion, and high continuation rates, even relative to high school diploma graduate (HSDG) recruits.

The experiment also confirmed that expensive training costs could be avoided by recruiting pretrained civilians; all but 2 of the 25 who graduated from HM A-school reached the fleet without additional NEC training, thereby saving the Navy approximately 23 man-years of expensive C-school training.³⁰ Ignoring the cost of infrastructure, equipment, and other overhead necessary to train these Sailors, and instead simply using a rough estimate of \$30,000 composite rate for an E3 with 1 year of service, this equates to a minimum of \$690,000 in savings.

Estimating the cost to recruit these pretrained recruits is not an easy task. Certainly, in terms of additional financial incentives, the costs were negligible. As described in [21], there was also little spent in terms of target marketing for this effort. The greatest cost would have come from the “opportunity cost” of devoting time to recruiting these

30. The remaining two attrited before reaching the fleet.

pretrained recruits, at the expense of the higher-propensity high school market—an estimate that was not possible within the scope of the HM experiment.

The Navy was still downsizing during the period covered by this experiment, but the next few years were especially difficult for enlisted recruiting. In particular, the Navy missed the enlisted recruiting goal by 7,000, or 12 percent of mission, in FY 1998. Therefore, the opportunity cost to recruiting these lower-propensity recruits was certainly much lower in FY 1996 than it would have been had the experiment been conducted in FY 1998 or FY 1999. In contrast, the cost to recruit pretrained HMs, in terms of recruiter time and effort, would have been reduced as recruiters gained experience in recruiting from this market and established relationships with community college faculty and placement personnel.

These isolated and small-scale attempts to recruit lateral entrants were failures for a number of reasons. For instance, the Navy does not fully capture the benefits of civilian lateral entrants. Virtually all recruits, regardless of their civilian education, training, and experience, start their A-school pipeline training at the beginning of the curriculum and follow a training path that is identical to that of 18-year-old recruits without relevant education or experience. Historically, the difficulty of assessing the degree of overlap between the pretrained recruit's education and Navy training has made it impractical to do otherwise in most cases. The HM rating was chosen for the experiment because it was an exception.³¹

31. As part of past personnel management initiatives, however, the Navy has done much to document the KSAs that are required of Navy occupations, making assessment of the overlap in training an easier task.

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Prior-service lateral entrants

Returning NAVETs, OSVETs

We consider two types of lateral entrants in this study: prior-service recruits and civilians with no prior military experience. We discuss civilian lateral entrants in the next section. Here, we document how the Navy has used PS recruits in the past and describe current policies and practices that may impede the full use of PS recruits.

PS recruits who left the Service in good standing offer a number of unique benefits to the Navy, especially with regard to filling manpower gaps, meeting emerging requirements, and transforming the future force. In particular, Navy veterans (NAVETs) do not need to attend boot camp and, in many cases, may have already mastered most technical training. This means that they are usually able to fill gapped billets quickly, especially at middle to senior paygrades. They also have knowledge of and experience with Navy culture and traditions, as well as experience with operating Navy-specific equipment. Depending on their civilian experiences, they may also be able to provide valuable insight and expertise from the civilian sector. In general, NAVETs are able to be productive Sailors in the fleet sooner than other types of recruits, including civilian lateral entrants with no prior military experience.

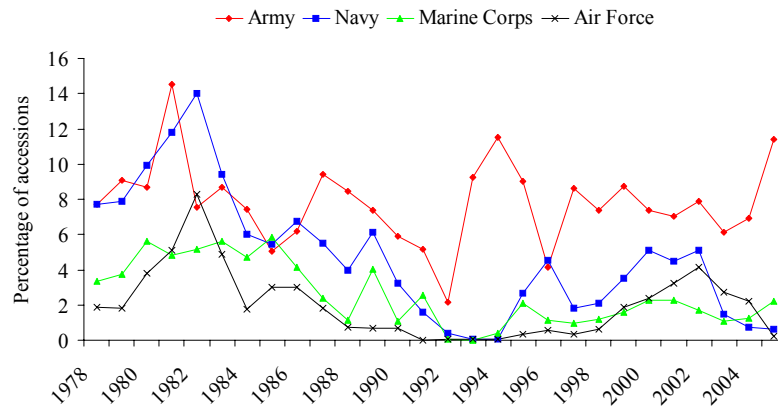
Other Service veterans (OSVETS) offer many of the same benefits, particularly by not needing boot camp training. Like NAVETs, they may also be able to eliminate significant portions of Navy technical training depending on their prior military or civilian occupation. While their knowledge of Navy tradition and culture will be more limited, they do have knowledge and experience with military service.

Because they chose to separate at least once from military service, however, PS recruits may have lower continuation than NPS recruits. We analyze data on NAVETs' return to service later in this section.

Historical trends in PS accessions

Figure 6 shows the historical trends in PS enlisted accessions for each branch of the military from FY 1978 to FY 2005. Because of the significant changes in recruiting goals over this time period, we express PS accessions as a percentage of all enlisted accessions each fiscal year.

Figure 6. PS accessions as a percentage of all enlisted accessions: FY 1978 to FY 2005^a



a. Source: Total Enlisted Accessions to Active Duty. www.dod.mil/prhome/docs/nps06.pdf (accessed June 1, 2007).

All of the Services had far more PS recruits in the late 1970s and early 1980s than they currently do. For instance, there were 13,000 PS recruits in the Navy in FY 1982, representing 14 percent of accessions. At the other extreme, in FY 2005 the Navy had just 243 PS recruits, representing less than 1 percent of accessions that year.

Part of the decrease in PS accessions that began in the early 1990s was due to the drawdown in endstrength, during the last years of which all of the Services except the Army eliminated almost all PS recruits. Though both Navy recruiting goals and the accessions of PS recruits increased in the late 1990s, PS accessions have not returned to pre-drawdown levels.

Thus, in spite of their apparent benefits, the Navy recruits few veterans; PS accessions have represented fewer than 5 percent of annual enlisted accessions for the past 15 years. To put this in perspective, in each of the years from FY 1991 to FY 2005, the Navy recruited more non-HSDGs (NHSDGs) than OSVETs and NAVETs combined. We make this comparison because NHSDGs as a group do not share the potential benefits to the Navy that eligible veterans do. For example, NHSDGs are much less likely than HSDGs to complete their enlistment contract. Indeed, Congress has capped the recruitment of NHSDGs in each Service to no more than 10 percent of accessions, while the Navy set an even tighter cap of 5 percent for most of the past 15 years. Despite the apparent benefits of PS recruits, the Navy also sets annual caps on the number of NAVETs and OSVETs it can access.

The Navy missed its recruiting goal in FY 1998 by 7,000 recruits, or 12 percent of mission. That year, PS accessions represented just 2 percent of all enlisted accessions. In contrast, the Army also failed to make its recruiting goal that year, yet PS accessions amounted to 7.3 percent of Army accessions.

In FY 1999, one of the strategies that the Navy used to address the recruiting shortfall was to increase the cap on NHSDGs from 5 to 10 percent of accessions. That same year, the percentage of PS accessions in the Navy increased by only 1.5 percentage points, to 3.5 percent of accessions.

The potential market for NHSDGs is larger than that for eligible veterans, and it is generally understood that the cap on NHSDGs is binding. Thus, one can see why NHSDGs might be sought to meet a challenging recruiting mission even if their first-term attrition rate is higher than that of other groups. We are not aware of any recent studies that have estimated the propensity of veterans to reenlist into active duty, though their value to the Navy could be substantial.

Prior-service recruiting policies

The Navy's policies on recruiting NAVETs and OSVETs is provided in the enlisted recruiting manual (COMNAVCRUITCOMINST 1130.8G dated April 2005). For the remainder of this section, we report only

on those policies and procedures outlined in this version of the recruiting manual, even though our period of analysis covers years in which earlier instructions were in effect. We have found no significant differences in NAVET policies in previous versions, however.

Age, prior service, and broken service restrictions

All veterans are subject to restrictions concerning the maximum length of their prior service, length of broken service, last paygrade, and age. Also, all PS applicants must have been discharged in a category that indicates they are reenlistment eligible. Table 1 summarizes the requirements regarding broken service and maximum prior service, by paygrade, for NAVETs reenlisting in their previously held rating. If that rating is not critically undermanned, they must qualify for a rating that is undermanned through the Prior Service (PRISE III) program. NAVETs recruited under PRISE III, regardless of their previously held paygrade, must not have more than 6 years of prior service, and the normal paygrade at accession is E3.³²

Table 1. Recruiting requirements for NAVET PS recruits regarding maximum broken service and maximum prior service

Paygrade at discharge	Maximum broken service	Maximum prior service
E1	Not specified	Not specified
E2	6 years	No more than 2 years
E3	6 years	At least 2 years
E4	5 years ^a	6 years
E5	5 years ^a	12 years ^b
E6	5 years ^a	14 years ^b

a. NAVETs discharged in paygrades E4–E6 with more than 5 years of broken service require Enlisted Community Manager approval.

b. NAVETs reenlisting under PRISE III may not have more than 6 years of prior service. Exceptions are made for critically undermanned ratings.

32. NAVETs reenlisting under PRISE III may not have more than 6 years of prior service. Exceptions are made for critically undermanned ratings.

Like NAVETs recruited under PRISE III, OSVETs must qualify for an undermanned rating in order to enlist. OSVETs separated in paygrades E1–E3 must have no more than 5 years of broken service and no more than 6 years of prior service; E4s–E6s must have no more than 6 years of broken service, and the maximum prior service is 6, 12, and 14 years for E4, E5, and E6, respectively. Unlike NAVETs under PRISE III, however, OSVETs are accessed in a paygrade one lower than their previously held paygrade, but not lower than E3.

Until recently, all military personnel had to complete 20 years of service by age 55. This implied that the maximum age for first-time enlistees was 35. In the National Defense Authorization Act of 2006 (NDAA 2006), United States Code Title 10, Section 505, was amended so that military personnel had to complete 20 years of service by age 62, which raised the maximum age for first-time enlistees to 42. The Navy chose to stay with the pre-NDAA 2006 age restrictions. According to the Navy’s recruiting website, in order to complete 20 years of service by age 55, first-time enlistees to the Navy must be no older than age 34. For Navy PS recruits, this means that the years of their prior service, plus the difference in their current age and 55, must sum to 20 years or greater.

In practice, the Navy’s 20-years-of-service-by-age-55 restriction is no more binding for PS than for NPS recruits because of the maximum broken service and maximum PS restrictions. Most NPS recruits are under the age of 21 when they first enlist.³³ The sum of the maximum broken service and maximum PS restrictions ensures that most PS recruits are young enough to satisfy the rule requiring 20 years of service by age 55. For example, a NAVET who was 18 when he or she first enlisted and was an E5 when he or she first separated can be *no older* than 35 at reenlistment (18 years old plus 5 years of maximum broken service plus 12 years of maximum prior service, as shown in table 1).

33. There are a number of reasons why so few new recruits are older, such as a desire or ability to attend boot camp that decreases sharply with age, or a military personnel and compensation system that is not competitive with the civilian sector for older recruits with civilian-sector training, skills, and experience.

Yet, recall that 35 is the age restriction imposed on new recruits with *no* prior military experience.

The restrictions on broken service are also more binding than the 20-years-of-service-by-age-55 rule. For example, since FY 1990, 75 percent of NPS Sailors who separated from the Navy as E5s had 8 or fewer years of service at separation.³⁴ The majority of NAVETs who separated as E5s could have a longer break in service than the maximum 5 years and still satisfy the 20-years-of-service-by-age-55 requirement.

Maximum PS rules do allow returning NAVETs time in service before reaching the HYT limit. However, these two rules combined still limit the length of service by experienced, skilled Sailors—just the group that the Navy needs to keep for its future force.³⁵ As noted, current policies regarding NAVETs typically allow for no more than 5 years of civilian occupational experience between enlistments. At the same time, NAVETs are also restricted by the HYT rules. Recall, for example, that the HYT for E7s is 24 years of service. The NAVET who has returned to service, achieved the rank of E7, and reached the HYT limit will have a maximum total occupational experience of 29 years. Even with 5 years of non-active-duty experience that their NPS counterparts don't have, many of these highly skilled technicians will still be forced to retire by the age of 50, or else be promoted to a leadership position.³⁶

Other restrictions

A few other PS recruiting restrictions are worth noting. For example, all women NAVETs must be approved by the appropriate Enlisted

34. Likewise, 75 percent of NPS Sailors who separated as E4s had 5 or fewer years of service at separation. In the absence of rules for maximum broken service, NAVETs who separated as E4s could also exceed the current maximum for broken service and still meet the 20-years-of-service-by-age-55 rule.

35. HYT does not apply to OSVETs unless they had prior Navy experience.

36. The Navy's HYT policy is uncommon in the civilian sector. Teacher tenure is one civilian example, but it is not as strict as the military system. Once a teacher reaches the one milestone of tenure, he or she has a good chance of being able to retire from his or her job.

Community Manager (ECM) before enlistment because of the limited number of sea billets available for them. Whether this restriction results in fewer women PS recruits is uncertain. Women make up a smaller percentage of PS recruits, however, than NPS accessions.³⁷

As we briefly described earlier, NAVETs reenlisting under PRISE III are usually accessed as E3s, regardless of previously held paygrade, unless they are entering a critically undermanned rating. By contrast, OSVETs are accessed in a paygrade one lower than their previous paygrade, but not lower than E3. Hence, NAVETs reenlisting under PRISE III are worse off than OSVETs with no prior Navy experience in terms of compensation and rank.³⁸ One restriction that may be more binding for OSVETs is that they must be in educational Tier I or Tier II, whereas no educational restrictions are noted for NAVETs.³⁹

We are not familiar with the PS recruiting policies of the other Services. However, if they treat veterans from the other branches the way the Navy treats OSVETs, then NAVETs seeking to reenlist may gain higher rank and pay if they reenlist in any Service other than the Navy, particularly if their Navy rating is closed.

37. Female NPS recruits represented 17 percent of FY 1994–1999 accessions and 10 percent of FY 2000–2005 PS accessions.

38. The policy states that NAVETs with convertible civilian experience to a critical rating may be accessed at a higher paygrade from one previously held. The example provided is a NAVET with experience as a civilian police officer who reenlists as a Master at Arms. The data show that this is an exception rather than the rule. Since FY 1990, just 3 percent of NAVETs rated at separation who reenlisted in a different rating reenlisted at a higher paygrade. Of these, 25 percent were assigned as MAs in their second enlistment.

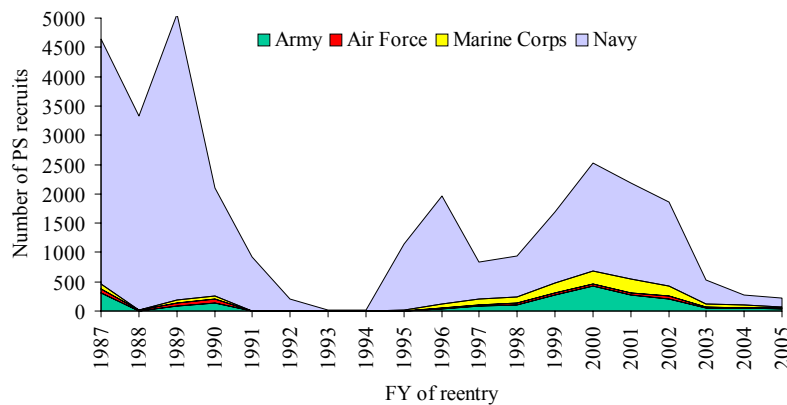
39. Tier I is composed of HSDGs. Tier II comprises NHSDGs who have an alternate credential, such as a General Educational Development (GED) certificate.

A closer look at PS recruits in the Navy

PS Navy accessions by prior branch

Figure 7 provides the total number of PS accessions in the Navy from FY 1987 through FY 2005 by PS branch. During this time period, there were almost 45,000 PS accessions.⁴⁰ NAVETs constitute the largest source—87 percent. Army veterans make up 7 percent; Marine Corps, 4 percent; Air Force, 2 percent; and Coast Guard, less than 1 percent.

Figure 7. Historical trends in Navy PS accessions by branch of military



40. We use PRIDE to identify PS recruits. We then match the Social Security Number of these recruits to their service record in CNA's abstract of the Enlisted Master Record (EMR). We eliminate Servicemembers who were TARs or TEMACs in their original or subsequent enlistment, those without a complete EMR record, and those for whom the ship date on PRIDE does not match the current enlistment date on the EMR. The total number of these dropped observations makes up about 5 percent of the total number of PS recruits identified on PRIDE.

Each year, the Navy sets a cap on the number of PS recruits it can bring in, usually expressed as a percentage of the total accession mission.⁴¹ When we review the changes in the number of PS accessions over time, it is important to remember that changes in the level of PS recruits can be driven by changes in supply or changes in demand.

For certain years, we may be able to infer why the cap was not filled (e.g., why supply fell short of demand). This was the case in FY 1999. Recall that the late 1990s was a difficult recruiting period that coincided with a period of low civilian unemployment rates. The strong labor market conditions (e.g., low unemployment rate) may have decreased the number of veterans willing to reenlist. Applying this logic to explain historical trends, however, falls short. For example, the unemployment rate was not especially low in FY 1992 through FY 1994 when the number of PS recruits fell to nearly zero. Instead, the Navy stopped recruiting veterans altogether as the recruiting mission fell during the first years of the drawdown.⁴² Nor has the unemployment rate decreased significantly since FY 2003, during which time the number of PS accessions declined significantly.

It suggests that there is a more complicated relationship of demand for and supply of PS recruits. It is possible that a cap on the number of PS accessions itself acts as a disincentive for eligible veterans to reenlist. Essentially, the Navy sends a weak demand signal (e.g., a tight cap); in response, veterans choose not to reenlist.

Similarly, the Navy's demand for PS recruits may be revealed by the experience of PS recruits after returning to service. If the PS recruit experience is satisfactory, it suggests that the Navy's demand for them may be high, and it may encourage other veterans to reenlist. If the PS recruit experience is less than satisfactory, this may indicate that Navy demand for these recruits is weak, which sends a discouraging signal to other veterans. To understand more about the experience of PS recruits who return to active duty service, we examine their records in more detail.

41. While CNRC imposes a cap for PS recruits, it sets a goal for NPS recruits.

42. CNRC personnel informed us that there were no PS recruits in 1993–1994 because PS recruiting was not allowed as part of the drawdown.

Reentry paygrade and length of service of PS accessions

Little research has been done on the experience of PS recruits in the Navy. To understand their return-to-service experience, we need to know the type of skills and length of military experience that PS recruits had when they originally separated. We also need to know how the Navy evaluated their performance in their first enlistment. Finally, we need to know how long PS recruits remained in the civilian sector before returning and to which ratings they returned.

Table 2 shows the paygrade and length of service (LOS) when Sailors first separate from the Navy. It also shows the paygrade at Navy reenlistment for all PS recruits.⁴³ We restrict our summary of the first two metrics to NAVETs since we do not have information on the previous enlistments of OSVETs.⁴⁴

Table 2. Paygrade, median months of prior service, and reentry paygrade: FY 1995–2005 PS accessions^a

Pay-grade	NAVETs		Percent reenlisting in paygrade			
	Median LOS of first enlistment	Percent separating at paygrade	NAVETs	Army	Air Force	Marine Corps
E1–E2	24	3	3	39	31	8
E3	37	23	35	55	61	78
E4	48	51	41	4	3	8
E5	77	20	18	2	2	6
E6	127	3	3	1	2	1

a. We report median (i.e., 50th percentile) rather than average months of prior service because the average is more sensitive to extreme values.

43. To ensure that we are capturing current phenomena, we confine our analysis to FY 1995–2005 PS recruits, unless noted otherwise.

44. It is possible to impute the previous LOS for OSVETs by calculating the difference in the Active Duty Service Date (ADSD) and the current enlistment date (CED) on the EMR. We do not feel that this is accurate, however, because the ADSD is equal to the CED for 20 percent of OSVETs enlisting in the Navy since FY 1995, which implies that these OSVETs had no prior experience.

It appears that a large majority of NAVETs who reenlist served just one term in their first enlistment. The median months of prior service for those who initially left the Navy in paygrade E1 or E2 suggest that they separated after a 2-year obligation, that those who left as E3s separated after a 3-year obligation, and that those who left as E4s separated after a 4-year obligation. Many E5s may have also left at the end of their first term, although the median LOS of the first enlistment is nearly 6.5 years.

NAVETs reenter at the highest paygrades of all PS recruits, with over 60 percent reenlisting in paygrades E4 and above. In contrast, 15 percent of Marine Corps veterans, 8 percent of Air Force veterans, and 4 percent of Army veterans reenlist in E4 or higher paygrades. Also note that, while 62 percent of NAVETs return in paygrades E4 and higher, 74 percent left in these paygrades. We will discuss demotion on reenlistment in more detail later.

In table 3, we compare the quality of NAVETs who reenlisted from FY 1995 to FY 2005 with active duty Sailors using two metrics: median AFQT score and percentage in paygrades E5 and above that were promoted “fast” to E5.⁴⁵

Table 3. Quality of FY 1995–2005 PS recruits versus current inventory

Category	NAVETs	Current NPS
Median AFQT		
E1-E4	62	57
E5	75	58
E6	78	62
Percentage fast to E5		
E5	40	23 ^a
E6	54	38

a. This percentage fluctuates slightly around 25 percent. Our counts of fast-to-E5 Sailors are based on periodic snapshots of the Enlisted Master File, and those counts exclude Sailors who leave immediately after promotion.

45. We used the AFQT score of NAVETs when they reenlisted. If that was missing, we used the AFQT at the first enlistment.

NAVETs have higher median AFQT scores than NPS Sailors at all paygrades, although an important caveat applies. Roughly 80 percent of all NAVETs retested when they reenlisted. The scores of NPS Sailors are predominantly from when they first enlisted.⁴⁶ NAVETs had the benefit of Navy training and education and more time to pursue civilian education to help raise their scores. In fact, of the retested NAVETs, 82 percent of E1s through E4s, 80 percent of E5s, and 73 percent of E6s did increase their AFQT scores. The average score increase was 12 points for E1s through E4s, 14 points for E5s, and 9 points for E6s. Regardless of the reason for the differences in scores, the higher median AFQT scores suggest that more NAVETs than new recruits will qualify for high-tech, critical ratings that tend to be more difficult to fill.

Similarly, a larger percentage of E5 and E6 NAVETs were “fast to E5” compared with the current inventory of NPS Sailors. Sailors are defined as promoting fast to E5 if they were among the first 25 percent of Sailors to promote to E5 in their rating and accession cohort. For example, Sailors who accessed in FY 1998 and were fire controlmen (FCs) at E5 are compared with all Sailors who accessed in FY 1998 who were also in the FC rating at their highest paygrade, up to E5.⁴⁷

We must group Sailors by rating because some ratings have faster career progression than others, all else equal. We must also group Sailors by similar fiscal years of accession to account for changes in promotion policies and in factors external to the Navy, such as economic conditions, that might affect the speed of promotion over time.

46. Although Sailors are allowed to retake the ASVAB while on active duty under certain circumstances, especially if they want to cross-rate, this is not nearly as common a phenomenon as with NAVETs.

47. To ensure sufficiently large samples, we group accession cohorts across 3 years. For example, the FY 1998 accession cohort is grouped with similar accessions from FY 1997 and FY 1999, while the FY 1999 accession cohort is grouped with similar accessions from FY 1998 and FY 2000, and so on.

The lower half of table 3 shows the percentage of fast-to-E5 promotions for NAVETs and for the current NPS inventory. By construction, about 25 percent of all NPS E-5s in a rating/accession cohort group will fall into the fast-to-E5 category; table 3 shows that 23 percent fell into the group. We might expect that the current NPS E6s would have a disproportionate share of fast-to-E5 Sailors since fast promoters may be more likely to reenlist. The data support this; table 3 shows that 38 percent of the current inventory of E6s were fast to E5.

When we apply this formula to NAVETs, 40 percent who left as E5s had been promoted fast to E5, compared with 23 percent of current NPS Sailors. Similarly, 54 percent of NAVETs who left as E6s were fast to E5, compared with 38 percent of current NPS E6s.

We have shown that NAVETs have higher median AFQT scores and a disproportionate share who were promoted fast to E5 compared with Sailors in the current NPS inventory. This provides evidence that NAVETs who return are more likely to be considered high-quality recruits and to have demonstrated higher than average performance in the Navy.

NAVET careers

Much of our remaining analysis pertains only to NAVETs because they represent the largest percentage of PS recruits (79 percent of FY 1995–2005 PS accessions) and because we do not have information on the prior service of OSVETs.⁴⁸ We include OSVETs where available data allow.

Table 4 summarizes the median number of months of broken service and age at reentry of returning NAVETs by their paygrade at separation. In general, the amount of time before they reenlist is a decreasing function of paygrade; NAVETs who left as E2s are gone for almost 2.5 years, while E4s are gone for less than 2 years. By contrast, there is little age difference for NAVETs returning to service who left as E4s or below. For reference, the median age of FY 1995–2005 Marine

48. CNA also maintains the service record of Marines, but they compose a small percentage of all PS recruits.

Corps PS accessions is 25, of Army and Navy PS accessions is 26, and of Air Force PS accessions is 27.

Table 4. Median gap in service and age at reentry:
NAVETs FY 1995–2005

Previous paygrade	Median months of broken service	Median age at reentry (years)
E2	32	23
E3	26	25
E4	22	25
E5	19	29
E6	22	32

Note that the median months of broken service and the median age at reentry are both well below the limits specified by policy (refer to table 1). It appears that Navy policies regarding length of broken service and age at reentry are typically not binding.

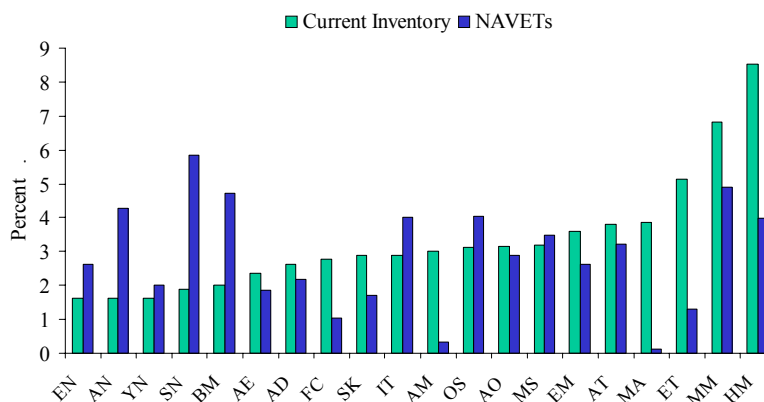
NAVET ratings at separation and reenlistment

Next we look at the rating distribution of returning NAVETs compared with the rating distribution of Sailors in the current inventory. Since the majority of NAVETs are in paygrades E3 to E5 with 24 to 73 months of service, we compare the ratings of current Sailors in the same paygrades and at the same LOS.

Figure 8 illustrates how NAVETs and the current NPS inventory of Sailors are distributed across ratings. We categorize NAVETs by their rating at the time of first loss. We include only ratings that make up at least 1.5 percent of the current inventory.

There are several interesting patterns. For instance, the MA rating has the lowest percentage of NAVETs but a sizable proportion of the current NPS inventory. This is due to the dramatic increase in the Navy’s requirements for MAs that occurred after many of these NAVETs separated and the fact that the MA rating was previously unavailable to Sailors below E4.

Figure 8. FY95-05 NAVET accessions versus current inventory



There was a similar and rather sudden increase in the requirements for Information Technicians (ITs), yet they are well represented in the returning NAVET population. Their sizable presence among NAVETs is due to a different phenomenon. The IT rating was created when the DP and RM ratings merged in the late 1990s, which occurred after these NAVETs separated. On closer inspection, we see that almost all of these returning IT NAVETs (94 percent) were previously in the RM rating.

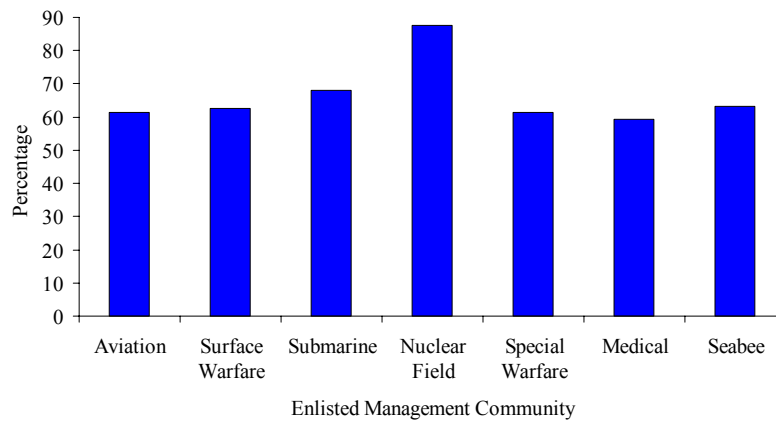
Figure 8 illustrates another relationship: Sailors with skills that have the least civilian opportunities are the most likely to reenlist, and vice versa. For instance, Airmen and Seaman Gendets are the most over-represented of all returning NAVETs. (Firemen (FN) are also over-represented; however, because the Navy recently eliminated FN accessions, they constitute less than 1.5 percent of the current inventory of E3 to E5 Sailors.) At the other end of the ratio, NAVETs with training in airplane maintenance and repair, electronics, and the medical field—all of which have significant civilian overlap and, equally important, civilian demand—are the most underrepresented.

How does the Navy use the skills of these returning NAVETs, especially their previously acquired Navy skills? Overall, almost two out of

three NAVETS who were rated when they separated return in the same rating (63 percent).⁴⁹

Figure 9 shows the percentage of NAVETS reenlisting in the same rating by Enlisted Management Community (EMC). Most are close to the overall average of 63 percent. The exception is the Nuclear Field: almost 90 percent reenlist with their previously assigned rating.

Figure 9. Percentage of NAVETS reenlisting in previously held rating



Sailors who were rated in their first enlistment but were not re-assigned to the same rating when they reenlisted were most likely to become rated as MAs (16 percent of FY 1995–2005 group), followed by AM (8 percent), and 5 percent each in the IT and ET ratings. This is not surprising since, as we noted earlier, the Navy had a significant increase in billets authorized (BA) for MAs following the terrorist

49. We note the NAVET's current rating (or the last rating when he or she left the Navy the second time) rather than the rating promised on PRIDE. Some of the promised ratings on PRIDE refer to recruiting programs rather than to specific ratings (e.g., AEC, AECF, AIC, DIV, SECF). Therefore, we can't determine the precise rating promised for these Sailors. This eliminates NAVETS who separated a second time before being rated, but that includes only 2 percent of NAVETS.

attacks of September 11, 2001. In fact, since FY 2002, one out of three NAVETS who left rated but returned to a different rating became MAs. Similarly, more OSVETs are MAs since FY 2001 than any other rating—14 percent.

The ratings to which NAVETs are least likely to be assigned when they return are TM, ABH, and BM, for which 90 percent, 61 percent, and 55 percent of returning Sailors are reassigned to different ratings, respectively. Figure 8 suggests that a large number of NAVETs who were in the BM rating when they separated are not able to return to their rating. Likewise, TMs and ABHs are overrepresented among NAVETs, but the current TM and ABH inventory is not presented in figure 8 because each rating constitutes less than 1.5 percent of current inventory. Combined, these findings suggest that a large number of Sailors who leave from the most overrepresented ratings return and cross-rate into the most underrepresented.

Time to the fleet

One of the potential benefits of PS recruits is their ability to get to the fleet faster than NPS recruits. Although this would allow the Navy to respond faster to gapped billets and emerging needs, it is difficult to make a direct comparison of time to the fleet for NAVETs and NPS recruits. Many ratings require C-school training before going to the fleet. C-school can vary in length for different ratings within rating groups. In addition, two Sailors in the same rating may require different C-school training, depending on the subspecialty that is emphasized. An example is the AECF program, composed of the ET and FC ratings. The variation in the total time to train NPS Sailors in these ratings is large and depends on the particular C-school curricula.

Instead, we report the average number of months in the Navy after reenlisting but before reaching full duty for PS recruits. We compare the PS recruits by prior military branch and EMC. NAVETs are differentiated by whether or not they returned to their previous rating. Those results are shown in figure 10.

NAVETs returning to the Navy in their previous rating on average take well under a year to reach full duty. In some EMCs, these Sailors will reach full duty in as few as 3 months, even in highly technical

disciplines. Although we do not make a direct comparison of time to the fleet for PS recruits and new recruits, it is clear that NAVETs returning in their same rating will reach the fleet in far less time than new recruits, especially in the Nuclear Field and Seabee EMCs.

Figure 10. Months to full duty: NAVETs returning in same rating, NAVETs returning in different rating, and OSVETs

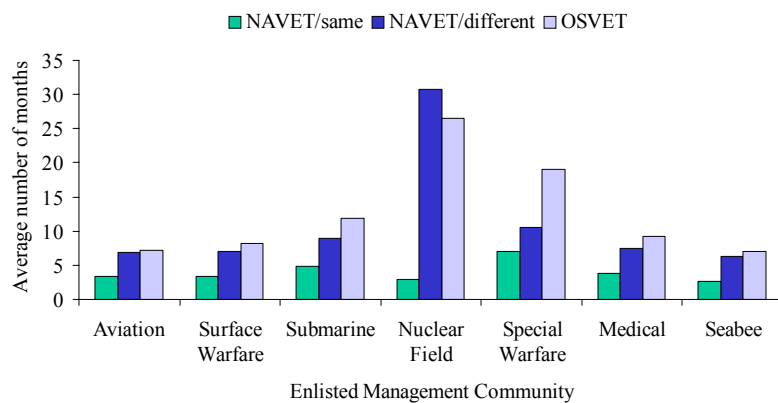


Figure 10 also shows that NAVETs returning in their previous rating take far less time to get to the fleet than any other category of PS recruit. It is reasonable to expect that OSVETs might take longer to reach the fleet than both types of NAVETs. Unlike NAVETs, some OSVETs had to attend boot camp. If they had relevant training in their previous enlistment, however, OSVETs might actually take less time to reach the fleet than NAVETs who change ratings. An example is OSVETs with other-Service training in airplane maintenance and repair who enlist in an aviation rating in the Navy. This may also be the case for OSVETs reenlisting in the Nuclear Field EMC.⁵⁰

50. Not all PS recruits reach the fleet with a rating: 3 percent of NAVETs and 7 percent of OSVETs reach the fleet as Gendets. Of these NAVETs, 57 percent were Gendets when they first separated, and 96 percent reenlisted without a school guarantee.

Paygrade policies

Some paygrade policies raise concern about the quality of the experience of PS recruits returning to the Navy. For example, NAVETs who have both Navy and civilian work experience may reenter Navy service at the same paygrade as many new recruits who have neither Navy nor civilian work experience. This is because new recruits may satisfy one of a number of the Navy's requirements for receiving advanced paygrade at accession, some of which have little to do with experience or training. These may include having earned at least 45 semester hours of college credit, referring people to the Navy who are ultimately recruited, or enlisting in the Nuclear Field.

Also of concern is the fact that a significant number of PS recruits are demoted upon return to service. For NAVETs reenlisting between FY 1995 and FY 2004, demotion at reentry was not uncommon, especially for those who did not return in the same rating.⁵¹ Table 5 shows the percentage of NAVETs reenlisting at lower paygrades.

Table 5. Percentage of NAVETs reenlisting at lower paygrades (FY 1995–2004)

Previous paygrade	Return in same rating ^a	Return in different rating ^a	All
E3	1.5	1.4	1.8
E4	9.1	48.7	23.4
E5	15.3	42.8	22.9
E6	18.3	29.3	20.6
All E3–E6	10.1	37.6	20.2

a. Refers only to NAVETs rated at first separation.

One in ten NAVETs who separated in paygrades E3 through E6 and who reenlist in their previous rating are demoted at least one paygrade when they reenter the Navy. Moreover, the probability of demotion is an increasing function of paygrade.

51. We do not include FY 2005 accessions because not enough time has passed to determine how long it takes them to be promoted to the paygrade they held when they first separated.

The reason for demotion, especially at the higher paygrades, is not entirely clear. One possibility is that the Navy is heavily discounting prior Navy and civilian work experience. Consider that, in their first enlistment, Sailors presumably satisfied all the requirements necessary to be promoted to the rank they earned when they separated, including possessing sufficient knowledge, experience, and expertise in their rating. Most served in that rank for some time before separating, and the median separation is only about 2 years for most paygrades. In addition, if their civilian work experience was in a related field, these Sailors could have maintained, and possibly increased, their expertise during their separation. Despite prior Navy and potentially relevant civilian work experience, these demotions occur.

Other explanations are possible. It may be that Sailors' civilian experience is not related to their Navy careers, or that their time away was so long that their Navy skills are assumed to have depreciated. It could also be that the Navy's needs for Sailors in particular paygrades vary over time; demotions at reenlistment may be the result of the challenges of meeting the Navy's fluctuating requirements rather than judgments about Sailors' particular qualifications.

Demotion could also reflect a policy of dissatisfaction or even punishment for separating from service. For example, many NAVETs returning to service in a different rating are demoted. This could reflect the fact that changing ratings requires training and experience in a new career path. PTS Sailors, however, are rarely demoted when they move to a new rating; they maintain rank while training for and acquiring experience in a new career.⁵²

To explore some of these issues, we study those who reenlist in their previously assigned rating to see whether the paygrade these NAVETs are awarded when they reenlist varies by the NAVETs' characteristics or over time. Are returning NAVETs demoted differently depending on rating, Navy experience, time away from service, or other factors?

52. PTS is available only to Zone A Sailors. Also, we do not know if PTS Sailors are of higher quality than returning NAVETs, but we have demonstrated that NAVETs score higher than current NPS Sailors on several key measures of quality.

We calculated a multivariate logistic regression of the probability that a NAVET reenlisting in his or her previous rating reenters the Service in a lower paygrade. We estimate the probability of demotion as a function of his or her paygrade at first separation, whether he or she promoted fast to E5 (for those E5 and above), LOS of first enlistment, race/ethnicity, gender, number of months of broken service, whether the person is a high school degree graduate,⁵³ age at reentry, and the EMC of their previous enlistment.

Appendix A provides complete regression results. In table 6, we report the estimated effect of each variable on the probability of reenlisting at a lower paygrade, holding other factors constant. We include only those variables that are statistically significant. HSDG status, gender, and race are not statistically significant. In other words, we estimate that these three characteristics have no effect on the probability that NAVETs will reenter the Service at a lower paygrade.

Our estimates indicate that NAVETs who separated as E5s are almost three times as likely to enlist at a lower paygrade as those separating as E4s, controlling for other observable factors. Those separating as E6s are over six times more likely to enlist at a lower paygrade as those separating as E4s. In other words, two otherwise similar NAVETs will likely have very different experiences with demotion upon reentry—a more senior NAVET being more likely to experience a loss of rank and compensation than a junior NAVET. It is possible that the Navy's requirements make it more difficult to take E5s and E6s into inventory. Nevertheless, demotions do not seem to be a particularly good signal to send to other veterans or to NPS civilian workers whom the Navy may someday want to recruit.

Also troubling is that E5s who promoted fast to E5 in their first enlistment are only slightly less likely to be demoted than those who did not promote fast to E5. We estimate that E6s who promoted fast to E5 are *more* likely to be demoted than their cohorts who did not promote fast to E5. It is not clear that the Navy is able to assess the quality of

53. About 20 percent of NAVETs do not retake the ASVAB when they reenlist, so we use HSDG status as a measure of quality *at reenlistment*.

Table 6. Probability of NAVETs reenlisting at lower paygrade^a

Variable	Estimated probability
Previous paygrade	
E4	7
E5—fast to E5	21
Other E5	23
E6—fast to E5	48
Other E6	43
Gap in service	
Less than 7 months	3
7 to 12 months	7
13 to 24 months	10
25 to 36 months	13
37 to 48 months	16
More than 48 months	22
First LOS	
48 months	16
72 months	10
EMC in previous enlistment	
Aviation	10
Medical	27
Nuclear Field	1
Seabee	18
Special Warfare	7
Submarine	10
Surface Warfare	10
Fiscal year of reentry	
FY 1995	10
FY 1996	7
FY 1997	12
FY 1998	18
FY 1999	11
FY 2000	10
FY 2001	11
FY 2002	11
FY 2003	18
FY 2004	24
FY 2005	8
Average	

a. Includes NAVETs reenlisting in same rating during FY 1995–2005 who first separated in paygrades E4 to E6.

NAVETs very well. This raises some questions about how the Navy will be able to assess the quality of other veterans or civilian workers.

This is some evidence that demotions may be related to perceived depreciation of Navy work skills. Longer gaps in service are also associated with a higher probability of a reduction in paygrade at reentry, although the magnitude of the effect is less than that of paygrade at separation. NAVETs who have been out of the service for 37 to 48 months are over four times as likely to experience a reduction in paygrade as those who were separated for less than 7 months.⁵⁴

There was little change in the estimated probability of a reduction in paygrade across most fiscal years, other factors held constant. The notable exceptions are FY 1998 and FY 2003, in which there was a 75-percent increase in the estimated probability of enlisting in a lower paygrade, and FY 2004, when the estimated probability of enlisting in a lower paygrade doubled. Recall that these were also years in which the Navy accessed relatively few PS personnel (refer back to figure 7). It is possible that the Navy's relatively low demand for PS recruits in those years increased the probability of a paygrade reduction and decreased the propensity of NAVETs to reenlist.

Finally, we note that NAVETs have a much higher probability of reenlisting in a lower paygrade if they are in either the Medical or Seabee communities, and a much lower probability if they are in the Nuclear Field. It is likely that the Nuclear Field community will allow NAVETs to return at their earlier paygrade because it faces many challenges in retaining its highly trained Sailors, and it is costly to produce a mid-grade nuclear-trained Sailor. In the case of the Medical and Seabee communities, it is likely that Navy demand for mid-grade Sailors changes frequently. We examined the lists of critically undermanned (Career Reenlistment Objectives (CREO) 1) ratings over time and found that Medical and Seabee community ratings have moved on and off the list, suggesting that mid-grade billet requirements and/or

54. Longer PS is associated with a decrease in the probability of enlisting in a lower paygrade; NAVETs with 4 years of PS are 60 percent more likely to have a reduction in paygrade than those with 6 years of PS, other factors held constant. It is not entirely clear how to interpret this result.

retention in these communities moves up and down. Thus, our data may have covered a time period when the Medical and Seabee communities did not have a particularly high demand for returning NAVETs and so were more likely to demote them. The policy may be somewhat shortsighted. More recent CREO 1 lists have included certain HM and Seabee ratings. However, the experience of earlier NAVETs' return to service may keep some current NAVETs with appropriate training and experience from returning to the Navy.

We also want to know if Sailors returning to service in a lower paygrade remain demoted for a substantial amount of time. If the demotions are short, they may merely reflect the difficulties of managing a large workforce rather than an explicit policy of discounting prior Navy and civilian work experience or punishment for lack of loyalty.⁵⁵

We followed NAVETs who reenlisted in FY 1995 through FY 2004 through the end of FY 2005 to see how many remained demoted, and, of those who were ultimately promoted, how long it took them to earn their previous rank. Table 7 summarizes our findings.⁵⁶

Table 7. Percentage and duration of demoted status of rated NAVETs: FY 1995–2004

Previous paygrade	Percent remaining demoted ^a		Average months to previous paygrade ^b		Median months in lower paygrade of those not promoted
	Same rating	Different rating	Same rating	Different rating	
E4	6.3	9.1	9.9	13.2	11
E5	11.2	11.2	14.9	19.3	20
E6	31.4	36.4	25.7	23.7	29
All E4–E6	10.3	10.1	12.8	14.4	16

a. Includes NAVETs who attrite before or after being promoted to original paygrade.

b. Refers only to those who were demoted and were promoted after reenlisting.

55. For example, if the demotion time is short, the loss of rank may be due to administrative limitations, such as lags in updating service records, or to temporary difficulties in matching returning NAVETs to billets of sufficiently high rank.

56. Fewer than 25 NAVETs separated as E3s and were demoted, so we do not report their statistics here.

Most NAVETs do get promoted back to the rank they held when they first separated, but this is a decreasing function of paygrade. Also, it does not appear to matter much whether the NAVET returned in his or her original rating for those in the E5 paygrade, but it does matter for those in the E4 and E6 paygrades. The time it takes to return to the higher paygrade is also a function of rank, with E4s taking almost a year to return to their former rank and E6s taking more than 2 years. Almost one in three E6s remain demoted, however, and 50 percent of those Sailors have been in the demoted rank for over 2 years.

In general, demotions do not appear to be temporary and are clearly not so for E6s. Some of the demotion activity may reflect administrative challenges, especially at the lower ranks. However, at the higher ranks, the longer demotion time seems to suggest that factors other than workforce management challenges may be responsible for the decrease in paygrade.

Attrition of PS accessions

Table 8 displays the attrition rates of PS recruits who enlisted between FY 1995 and FY 2000, by prior Service branch. In general, we define attrition as leaving the Navy more than 3 months before the end of obligated service. Former Marines and NAVETs have the lowest attrition. The attrition of former Airmen is somewhat higher, while the attrition of Army OSVETs is 16 percentage points (70 percent) higher than the attrition of NAVETs.

Table 8. Attrition of FY 1995–2000 PS recruits

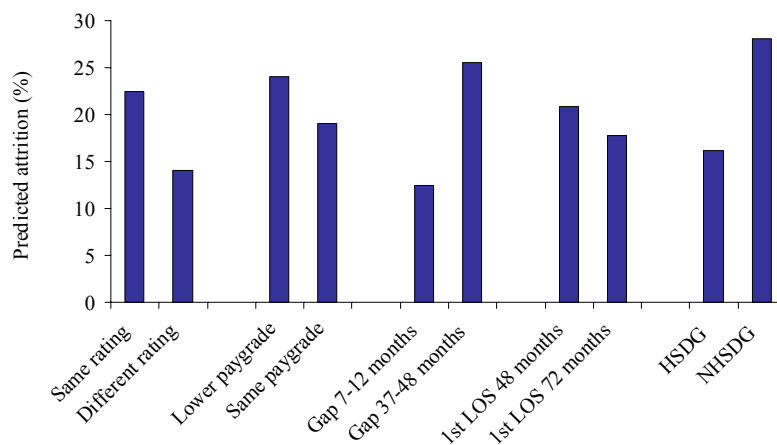
Prior Service branch	Percentage attriting
Air Force	29
Army	39
Marine Corps	22
Navy	23

We explore the NAVET attrition rate in more detail to see if it can be partly explained by demotion upon return to service. We estimate the probability of attrition for NAVETs as a function of whether they returned to the same rating and/or paygrade, the length of their

broken service, EMC, the LOS of their first enlistment, whether they promoted fast to E5, and whether they had at least a high school degree. We also control for age, race/ethnicity, and gender.

Appendix B contains the full regression results. Figure 11 displays the predicted differences in NAVET attrition due to factors found to be statistically significant.⁵⁷ As shown, attrition was more likely for those demoted versus not demoted on return to service, even controlling for other variables that help explain differences in NAVET attrition.

Figure 11. Predicted differences in NAVET attrition: FY 1995–2000



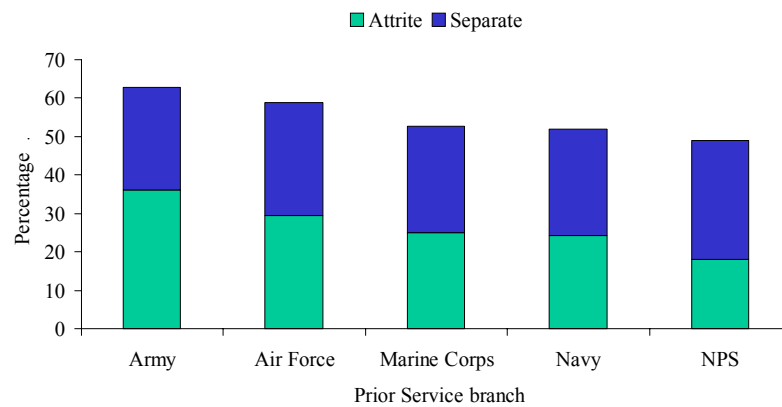
Attrition and separation of PS accessions and NPS Sailors

Attrition is affected by many factors, including type of enlistment (first, second), LOS, paygrade, rating, and personal characteristics (age, marital status). Attrition varies across such a wide range of Navy-specific and personal characteristics that it is difficult to create comparable groups of PS recruits and NPS current inventories.

57. Several other variables were statistically significant. All else held constant, we estimate that African-American NAVETs were *more* likely and Asian/Pacific Islanders were *less* likely to attrite than other racial/ethnic groups. Also, we estimate that E5 NAVETs who did not promote fast to E5 were slightly less likely to attrite than their fast-to-E5 counterparts.

Figure 12 displays, by prior Service branch, the rates of attrition and separation before retirement for PS recruits who enlisted between FY 1984 and FY 1990.^{58, 59} For comparison, we calculate similar metrics for NPS Sailors who reenlisted with 45 to 73 months of service during the same time period. This control group may not be similar to PS recruits with the same LOS since the former do not have any broken service, are younger, and have a far lower incidence of decrease in paygrade. Even so, they are comparable to these PS Sailors in other important respects; both groups have similar LOS and have made choices to reenlist after completion of their first term.

Figure 12. Attrition and separation prior to retirement of PS versus NPS Sailors^a



a. PS recruits who reentered the Navy, or NPS Sailors who made reenlistment decisions, in FY 1984–1990.

58. We use earlier PS recruit and NPS Sailor cohorts so that we can examine their attrition and separation behavior up to 20 years of service. Sailors could have attrited or separated before retirement, retired, remained in the enlisted force past 20 years, or become officers (the latter constitute a small group—less than 2 percent).

59. Since more than 50 percent of PS recruits have at least 48 months' LOS when they reenlist, most who reenlisted in this time period would have reached 20 years of service by the end of FY 2005, or they would have been very close to that milestone. Therefore, we assume that those who are still in the Navy either already are, or will soon be, eligible to retire.

NAVET attrition over the period was about 24 percent, which was 6 percentage points higher than the rate for NPS Sailors. However, NPS Sailors separate at a higher rate than NAVETs, so the percentage of Sailors from the two groups making it to retirement is about the same.

The PS Marine attrition and separation behavior is nearly identical to that of the NAVETs. Army OSVETs have the highest attrition of all other PS recruits (36 percent)—a rate that is 50 percent higher than the NAVET attrition rate.

Career progression for NAVET Sailors who stay

We also examine the career progression of PS recruits and their NPS counterparts. The fact that PS recruits enlist at lower paygrades does not necessarily mean that they progress more slowly than NPS recruits. At each LOS, we compared the percentage of FY 1995–2005 PS accessions who were E6 and higher to the percentage of the current inventory of NPS Sailors who were E6 or higher. To be counted in the calculations, the Sailors had to still be in the Navy at the end of FY 2005. Figure 13 shows the results.

Figure 13. Percentage of Sailors who are E6 or higher by LOS

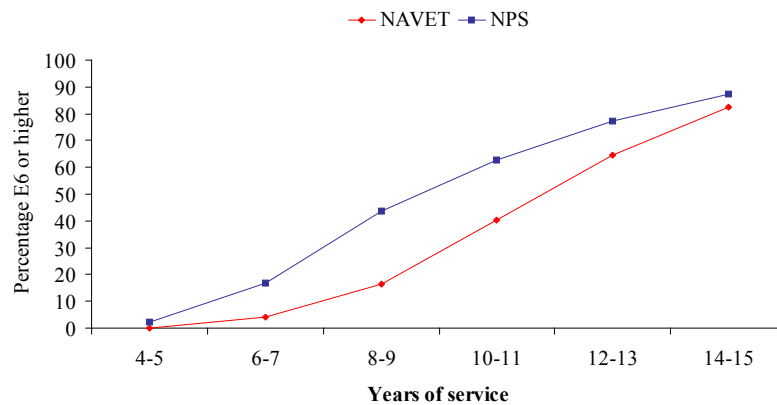
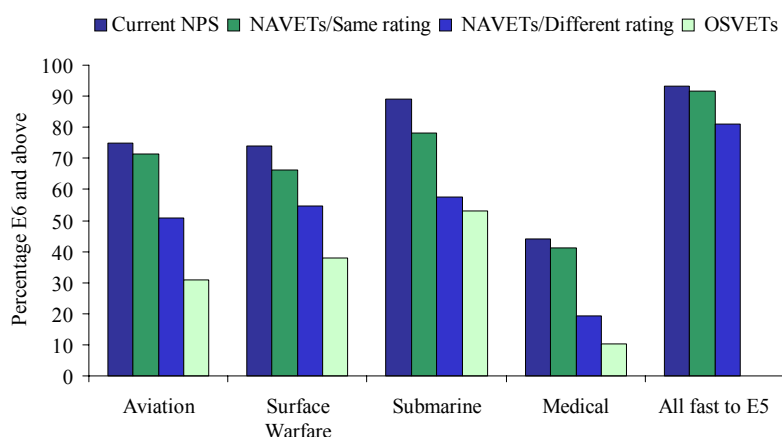


Figure 13 illustrates that, until 15 years of service, PS recruits are on average of lower rank than their NPS counterparts. It appears as though it takes the better part of a Navy career for PS recruits to

“catch up to” their NPS counterparts by achieving the same rank at the same years of service.

Promotion of PS and NPS Sailors is a function of many factors, including occupation. Thus, we also calculated the percentage of Sailors with a total of 10 to 14 years of service who were E6 and above, by PS and NPS and by EMC. Figure 14 displays those results, which are consistent with those depicted in figure 13. In each EMC, PS recruits are slower to promote than NPS Sailors at the same LOS.

Figure 14. Sailors with 10 to 14 years of service who are E6 and above: NPS versus PS recruits



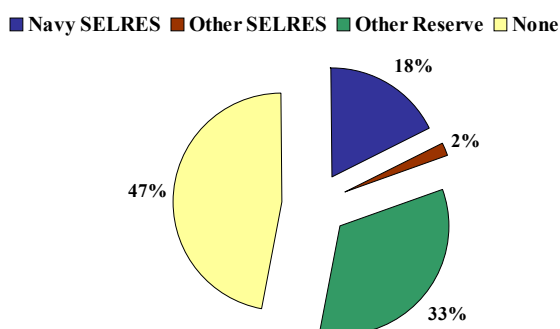
PS experiences in the Reserve

Our analysis has considered only the experiences of PS recruits while on active duty because we do not have information on their civilian employment or training between active duty episodes. Beginning in FY 2000, however, we are able to document reserve component affiliation of PS recruits using the Reserve Components Common Personnel Data System (RCCPDS).

Documenting reserve experience is important for two reasons. It adds to our understanding of (a) the flows between the active and reserve components and (b) how the active component evaluates military service in the Reserve and whether reserve affiliation influences such factors as demotion, rating upon reentering the active component, and time to the fleet.

In figure 15, we summarize the proportion of PS recruits reenlisting between FY 2000 and FY 2005 who had reserve experience in that time period. We identify PS recruits by the branch of Service of their last reserve affiliation and by last category of reserve status (e.g., Selected Reserve (SELRES), Individual Ready Reserve (IRR)).

Figure 15. FY 2000–2005 reserve experience of PS recruits



Eighteen percent of the 7,620 PS recruits in this time period were in the Navy SELRES at some point before reenlisting, 2 percent were in another Service's SELRES, and 33 percent were in some other category of reserve status, predominantly in the IRR. The data show that nearly half of the PS recruits who rejoined the active duty Navy from FY 2000 to FY 2005 did not have reserve affiliation during that time.⁶⁰

60. It is possible that we missed some reserve activity for PS recruits who returned to active duty early in the FY 2000–2005 period but whose reserve activity predated FY 2000.

Unfortunately, we do not have data on how long PS recruits were away from active duty before spending time in the Reserves, nor do we know how long, on average, they were in the SELRES. Both of these measures would be useful for understanding how reserve experience affects return-to-active-duty experiences, but we can say that about 94 percent of all PS recruits who spent time in the Navy SELRES over the time period transitioned back to active duty within 6 months of leaving the Navy SELRES. We look more closely at these reservists when we consider demotion experiences because they have the most recent relevant Navy experience of any category of PS recruits.⁶¹

From FY 2000 to FY 2005, about 61 percent of NAVETs who spent time in the Reserve returned to active duty in the rating that they held in the Reserve. For comparison, 58.3 percent of all other PS recruits in this time period reenlisted in their previously held rating. Reservists with the greatest probability of reenlisting in another rating came from BM, ABH, GM, HM, and YN. These reservists are also more likely to be cross-rated into the MA rating.

Table 9 shows that time to the fleet is not appreciably shorter for PS recruits with reserve experience than for other PS recruits. In fact, in some EMCs, NAVETs who spent time in the SELRES take longer, on average, to get to the fleet than NAVETs who did not affiliate with the Reserve.⁶²

Table 10 displays the demotion experiences of FY 2000–2004 PS reservists with and without Navy SELRES experience. For reservists, we define demotion as reentering at a lower paygrade than the last one held in the Reserve. For those without SELRES experience, we define demotion as reentering at a lower paygrade than the last one held on active duty.

61. Only 20 PS recruits who did not affiliate with the Reserve in this time period were separated from the Navy for 6 months or less.

62. One caveat to this comparison is that we do not know if those with SELRES experience are attending more C-schools before going to the fleet than those who did not.

Table 9. Average months to fleet: FY 2000–2004 reservists with time in SELRES versus other PS recruits by EMC^a

Enlisted Management Community	Returning NAVETs with some SELRES experience		Returning NAVETs with no SELRES experience	
	Same rating	Different rating	Same rating	Different rating
Aviation	3.6	6.2	3.7	7.6
Surface Warfare	3.4	5.6	3.6	6.1
Medical	5.4	9.3	3.4	8.9
Seabee	3.1	5.7	2.7	6.6

a. We include only those EMCs with a significant number of reservists.

Table 10. Percentage of NAVETs demoted by rank and reserve affiliation, FY 2000–2004

Category of PS recruit	Rank ^a		
	E4	E5	E6
NAVET with no SELRES experience:			
Percentage demoted	34.2	22.1	25.8
NAVET separating from Navy SELRES within 6 months of reenlisting to active duty ^b	34.1	24.8	28.7

a. We define demoted for those in the Reserve if their last paygrade in the Reserve was higher than their paygrade at reentry to active duty. For those without SELRES experience, demotion is defined as a lower paygrade at reentry into active duty from the last paygrade held at first discharge.

b. We also made these calculations for NAVETs who ever spent time in the SELRES, regardless of whether they had that experience within 6 months of reenlisting to active duty. They are not appreciably different from those for NAVETs who had SELRES experience within 6 months of reenlisting to active duty.

Table 10 shows that, within each paygrade, reservists are as likely to be demoted when they return to active duty as NAVETs without reserve affiliation experience. We do not control for whether they return in the same rating because of small sample sizes, but recall that the percentage of all PS recruits who return to the same rating with or without reserve experience (58 versus 63 percent) is about the same.⁶³

63. Table 5 shows that PS recruits (FY 1995–2004) who returned to a different rating were more likely to be demoted than those who returned in their same rating.

Because of data limitations with the reserve files, we cannot control for the total time away from active duty for those who have some reserve experience; therefore, we cannot say how this might affect the probability of being demoted. Nevertheless, there is some evidence that NAVETs with reserve experience do not appear to fare much better than NAVETs without reserve experience when returning to active duty.

Summary and conclusions for prior-service lateral entrants

PS recruits represent a small fraction of total recruits each year, and their numbers in the past 15 years have consistently remained below what they were in the decade before the drawdown. It is not certain whether these decreasing numbers are due to a reduction in the Navy's demand for PS recruits, a decrease in PS recruits' propensity to reenlist, or some combination of these factors.

What is known, however, is that PS recruits are likely to be of higher quality than the average NPS Sailor, and they are often able to get to the fleet much faster than new recruits. This is particularly true of NAVETs who reenlist in their previous rating. On average, they are fully trained and in the fleet within 5 months of accessing, including those in technical ratings. Also, PS recruits are familiar with Navy culture and often have experience with specific Navy equipment.

Even so, the Navy demotes a number of NAVETs who return to active duty, especially those who left at higher paygrades. There is some evidence that these demotions may be the result of the Navy discounting previous service, civilian experience, and affiliation with the Navy Reserve.

Reductions in paygrade upon reentry have long-term consequences for the returning Sailors. Returning NAVETs lag behind NPS recruits in promotion to higher paygrades. It is perhaps not surprising that they have somewhat higher attrition than NPS Sailors at the same LOS. Yet, NAVET continuation rates to 20 years of service are about the same for comparable NPS Sailors because more NPS Sailors than returning NAVETs separate before retirement.

It is important that the Navy understand the signal being sent to veterans concerning return to service. From capping the number of PS recruits allowed each year, to the chance of demotion upon return to service, to slower career progression, the Navy does not appear to greatly value this group of recruits.

This does not bode particularly well for a successful enlisted lateral entry program. The Navy must understand how policies and procedures for recruiting and managing PS recruits may reflect discounting of prior military, reserve, and civilian experience. If these ideas are not well understood, the Navy will not likely be able to extend a lateral entry program to NPS workers successfully.

Non-prior-service lateral entrants

We now turn to the potential market for NPS lateral entrants. Who are possible lateral entrants to the Navy from the civilian sector, and how large is that group? How do education and job experience affect earnings, especially among workers in occupations from which the Navy might benefit?

Who is a possible lateral entrant?

To identify the size and workforce characteristics of the potential lateral entry population, we use publicly available information about the entire U.S. population—specifically, the 5-percent Public Use Micro-Sample (PUMS) of the 2000 Census.⁶⁴ The traditional Navy recruiting market is dominated by high school degree graduates (HSDGs) who are within a year or two of completing their secondary education. We want to restrict the potential lateral entrant group to those who are *not* in the traditional recruiting market. Thus, we select HSDGs who are age 20 to 29, inclusive. The 20- to 29-year-old age group comprises roughly 38 million people.

To limit the potential lateral entry market to 20- to 29-year-old workers with no prior military service, we select those who are not currently on active duty or in the Reserve, have no prior military service, and are in the workforce. We exclude noncitizens and those living outside the 50 United States and the District of Columbia.⁶⁵ We also exclude non-HSDGs (NHSDGs). Finally, we exclude not only those who are in college but also those who have earned a graduate or professional degree beyond a baccalaureate.

64. We use weights provided by the Census Bureau to make our numerical counts representative of the U.S. population.

65. We do include those born in U.S. territories but currently residing in 1 of the 50 states or the District of Columbia.

These exclusions decrease the size of the sample dramatically. Our sample now includes about 15 million people. In particular, cutting out those who are in school, those who did not earn a high school diploma, and those who are not in the workforce causes the sample size to decrease substantially. However, we believe that those who have completed high school or some college and have a record of labor force participation are likely to be the best candidates for lateral entry. Thus, our figures might be viewed as lower bound estimates of the number of potential candidates for lateral entry.

Size of the market

Figure 16 shows that the potential lateral entry market for men is large; about 7.7 million workers meet our sample criteria. It also shows that in 2000 there were 502,000 male HSDGs no longer in school—the traditional male Navy recruiting pool. Thus, the potential lateral entry market is many times larger than the traditional recruiting market.⁶⁶ For comparison, we also include the number of men in this group with prior military service. This group is about the same size as the traditional recruiting pool.

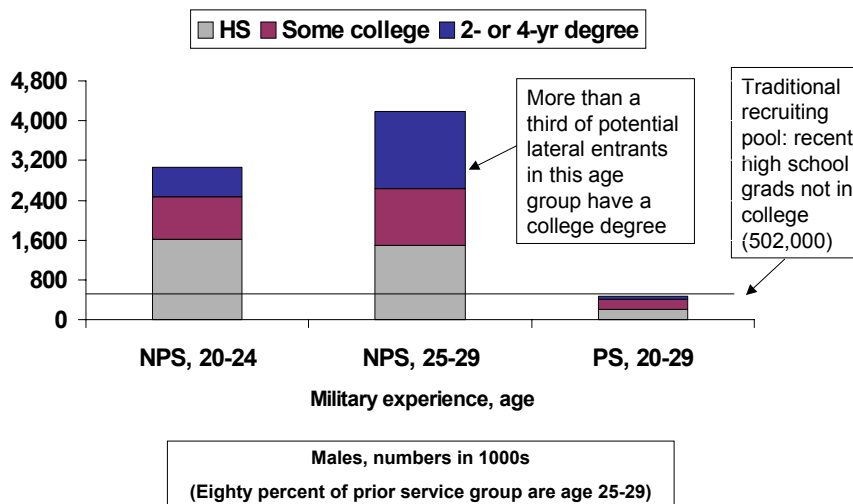
As we might expect, the average education level in our potential lateral entry market for men is higher than that of the traditional recruiting market. These potential lateral entrants also may be more inclined to pursue higher education. In addition, because they are older than those in the traditional recruiting market, they have had more time to pursue higher education. Among the potential lateral entrants for men, the college market (both 2- and 4-year degrees) is larger than the HSDG market. Among the 25- to 29-year-old potential lateral entrants, about 30 percent have 2- or 4-year college degrees.

Figure 17 shows that the potential lateral entry market for women is similar in size and education level to that for men. About 7.3 million women meet our sample criteria. More than a third have 2- or 4-year college degrees. A notable difference between working men and

66. Although we use the number of HSDGs not in college as the pool from which the majority of Navy recruits are drawn, we recognize that some recruits do not have traditional high school diplomas.

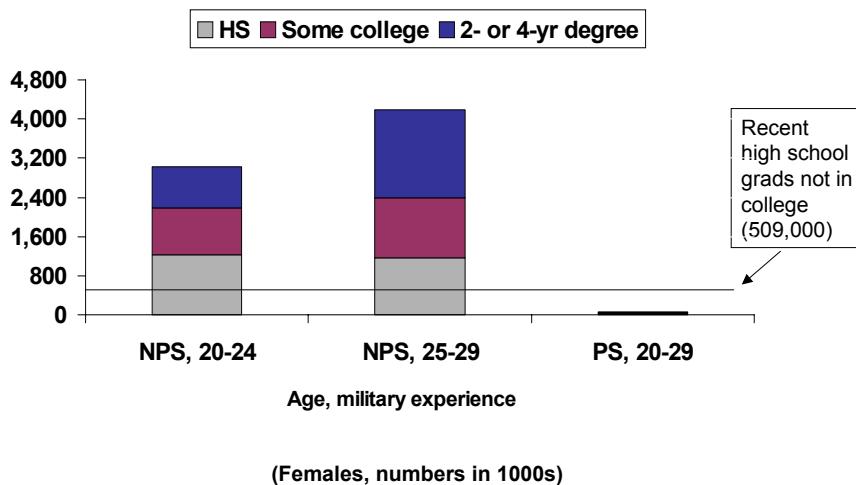
women in this age group is the size of the group reporting prior military service; it includes only about 63,000 women, compared with about 475,000 men.

Figure 16. Potential male lateral entrants by age and education level^a



a. The figure on the traditional recruiting market pool comes from table 183 in [23] and is in 2000 levels, which is comparable to our Census data.

Figure 17. Potential female lateral entrants by age and education level



We also use the number of HSDGs who are not enrolled in college as a benchmark of the Navy’s traditional recruiting pool for women. In 2000, more women than men completed high school but did not enroll in college (509,000 versus 502,000). This is because women complete high school at higher rates than men.

The potential NPS lateral entry pools are substantial in size; however, it is worth noting some of the challenges to recruiting these workers. The propensity of these workers to enlist in the Navy is lower than for those in the traditional recruiting market, even before we consider comparisons of civilian and Navy earnings. (The NPS workers already made a decision to bypass military enlistment when they were part of the traditional recruiting market.)

Likewise, the Navy may be much more interested in certain potential lateral entrants than others depending on the type of training and work experience they have. To identify those workers, we next limit our lateral entrant pools further by occupation type. We formed groups of occupations that are likely to have substantial overlap between civilian and Navy job responsibilities. We define these groups based on the occupation reported in the Census sample. Table 11 lists all occupations included in each occupational grouping.

Table 11. Occupational groupings

Grouping	Occupations included
Technical	Electrical/electronics engineers Electricians Electric motor, power tool, related repairers Electrical/electronics repairers; industrial, utility, and transportation equipment Electrical equipment installers/repairers, motor vehicles Electronic home entertainment equipment installers/repairers Telecommunications line installers/repairers Electrical, electronics, electromechanical assemblers
Food Service	Food service managers First-line supervisors/managers of food preparation/serving workers Cooks Food preparation workers Combined food preparation and serving workers, including fast-food

Table 11. Occupational groupings

Grouping	Occupations included
	<ul style="list-style-type: none"> Counter attendants, cafeteria, food concession, and coffee shop Food servers, non-restaurant Dishwashers
IT (Information Tech.)	<ul style="list-style-type: none"> Computer support specialists Database administrators Network and computer systems administrators Network systems and data communication analysts Computer hardware engineers Computer operators Radio and telecommunications equipment installers and repairers Avionics technicians Computer control programmers and operators
Construction	<ul style="list-style-type: none"> Surveyors, cartographers and photogrammetrists Drafters First-line supervisors/managers of construction trades and extraction workers Boilermakers Brickmasons, blockmasons, and stonemasons Carpenters Carpet, floor, and tile installers and finishers Cement masons, concrete finishers, and terrazzo workers Construction laborers Paving, surfacing, and tamping equipment operators Pile-driver operators, and miscellaneous construction equipment operators Drywall installers, ceiling tile installers, and tapers Paint, construction, and maintenance Pipelayers, plumbers, pipefitters, and steamfitters Plasterers and stucco masons Reinforcing iron and rebar workers, and other iron and steel workers Roofers Sheet metal workers Helpers, construction trades Welding, soldering, and brazing workers
Protective	<ul style="list-style-type: none"> Bailiffs, correction officers, and jailers Police officers Transit and railroad police Security guards and gaming surveillance officers

Figure 18 shows the potential pool of lateral entrants for men who work in those occupations that have military parallels. The total size of the pool is still substantial. However, there are considerable size differences between the occupations, with smaller pools of high-tech workers (technical, IT) and much larger pools of traditionally mid-tech workers (construction) and lower-tech workers (food service).

Figure 18. Potential male lateral entrants by age and occupation

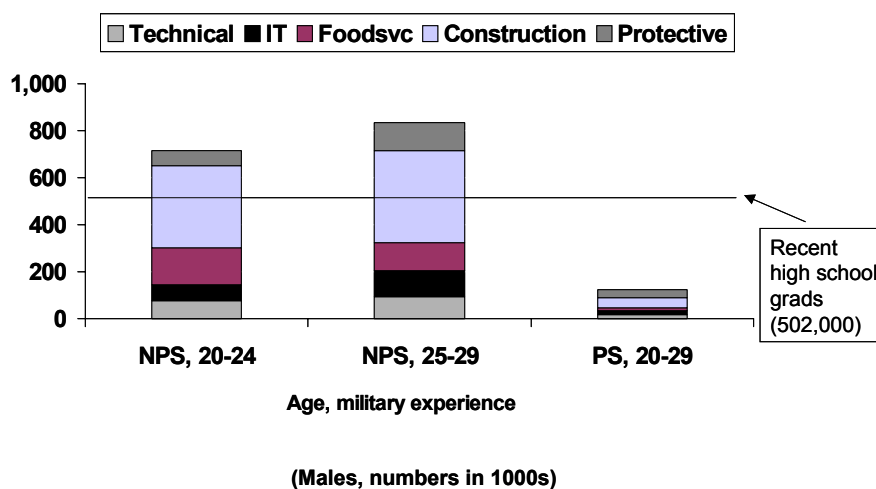
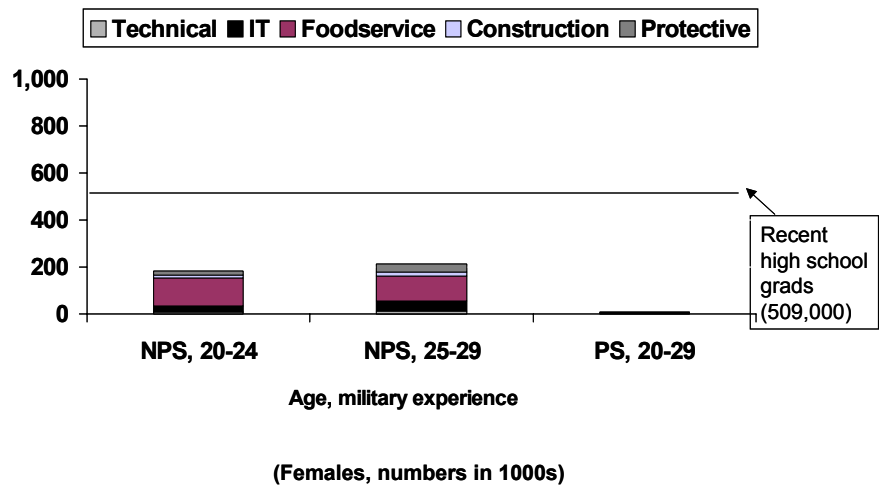


Figure 19 shows that the number of women in these occupations is much smaller than the number of men. Although women will always be an important part of the Navy recruiting pool, their potential as lateral entrants appears to be substantially less than that for men, at least based on occupations that may be of interest to the Navy. As a result, much of our remaining analysis is restricted to data on men.

Undoubtedly, potential civilian-sector compensation will play a significant role in the decision of an experienced worker to join the Navy. We now turn to an analysis of earnings and compensation for potential lateral entrants, focusing on men in occupations of interest to the Navy. It is important to remember that earnings (i.e., wages or salary) are just one part of a total compensation package. Total compensation can also include nonsalary/wage benefits, such as pension plans,

medical insurance, and other cash or noncash benefits that an employer might provide to workers. The Navy provides significant nonsalary benefits to Sailors; some civilian employers do as well. First, we review earnings; then we discuss other aspects of compensation.

Figure 19. Potential female lateral entrants by age and occupation



Earnings in the NPS lateral entry market

To provide context for evaluating earnings for our potential lateral entrants, we first look at the shape of the earnings profile for all U.S. male workers early in their careers. Table 12 shows median civilian annual earnings for men by education level and age.⁶⁷ A key feature of the earnings profile in the United States for male workers under age 35 is that earnings increase sharply with age, especially for those with college degrees.

Age can be viewed as a proxy for work experience. Thus, the table illustrates that returns to work experience in the civilian sector for younger workers are quite large. More practically for the Navy, this

67. We define earnings as reported base salary or wages. The earnings figures we present are in 2004 dollars.

suggests that 25- to 29-year-olds will be much more expensive to recruit than 20- to 24-year-olds. This is true for two reasons: (1) those age 25 to 29 have higher civilian earnings than younger workers, and (2) they look forward to additional raises over the next few years as demonstrated by the earnings of those age 30 to 34. Those with college degrees, in particular, earn significantly more during their thirties than during previous years.

Table 12. Median civilian yearly earnings for men, by education level and age^a

Age	Yearly earnings (in dollars) by education			
	High school degree	Some college	2-year degree	4-year degree
20-24	19,269	20,403	23,803	34,005
25-29	27,771	31,171	34,005	39,672
30-34	30,038	35,138	38,539	48,740

a. Median earnings in each group, reported in 2004 dollars, inflated using the Consumer Price Index for All Urban Consumers (CPI-U).

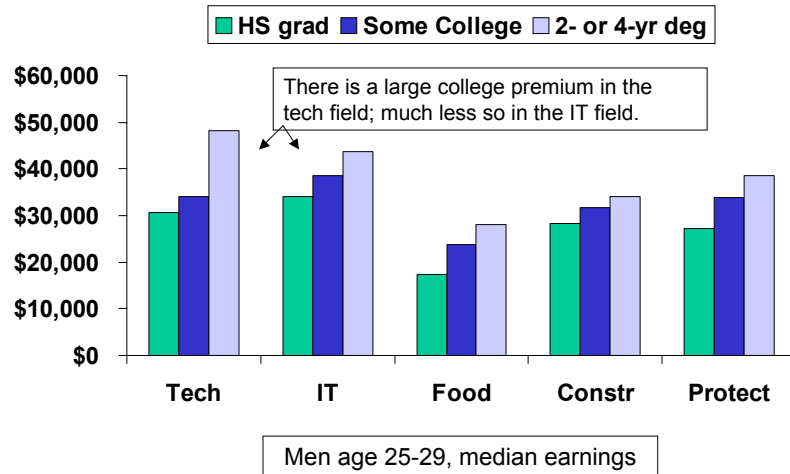
Table 12 does not adjust for occupation-specific differences in earnings profiles. To examine such differences, we focus next on earnings of those in various occupational groups of interest to the Navy as defined earlier. Figure 20 shows how earnings vary by occupation and education. As we might expect, the technical and IT fields have higher median earnings than other occupations at each education level. Earnings vary more by education in the technical/IT fields than in the other fields. This effect is most pronounced in the technical fields, where the return to a 4-year degree is especially large.⁶⁸

These occupational earnings data suggest that the Navy will face a significant financial challenge in recruiting lateral entrants with 4-year college degrees, particularly in the technical fields. A lateral entry

68. Further analysis shows that median wages for 2-year-degree earners are much closer to the median wages of workers with “some college” than with 4-year degrees. This pattern holds for all occupations and is particularly pronounced in the tech fields.

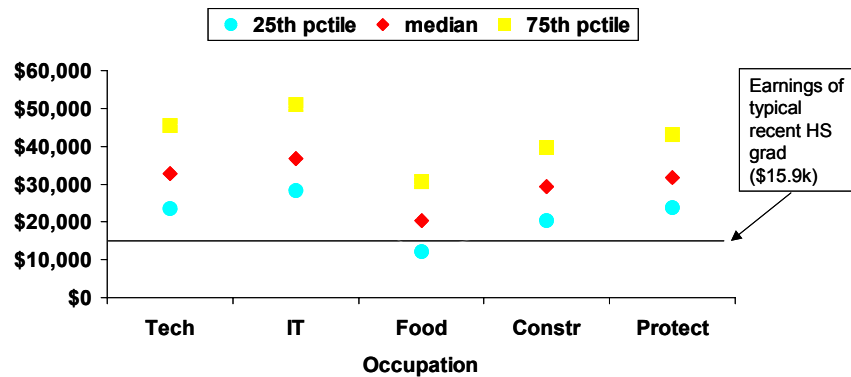
program may be much more successfully targeted at workers with 2-year college degrees or less.

Figure 20. Median yearly earnings for potential male lateral entrants by age, education level, and occupation



An important difference between the Navy and the civilian sector is that pay in the Navy is determined largely by paygrade and years of service; thus, pay disparity among those who entered the Navy at the same time is relatively small. In contrast, pay disparity in the civilian sector is usually much larger. In figure 21, we focus on those workers who do *not* have 4-year college degrees (we include those with high school diplomas, some college, or 2-year degrees). In this figure, we look at the distribution of earnings by occupation for male workers age 25 to 29. Figure 21 shows that high median earnings occupations, such as the tech fields and IT, also have high earnings variation. The high earnings variation in the civilian sector suggests that those workers who earn less than average may be more willing to consider lateral entry. Assuming that at least some of these workers are well qualified, this civilian earnings variation may be helpful to the Navy in recruiting lateral entrants.

Figure 21. Distribution of earnings for potential male lateral entrants by occupation, excluding those with 4-year college degrees



We also include an estimate of the earnings of the typical recent high school graduate—the traditional Navy recruit—to compare with the earnings of our potential lateral entrants. The median annual earnings of the traditional Navy recruit is about \$16,000, which is lower than the 25th percentile of earnings for male workers age 25 to 29 in the occupations of interest to the Navy, with the exception of food service.⁶⁹

Incorporating other worker benefits

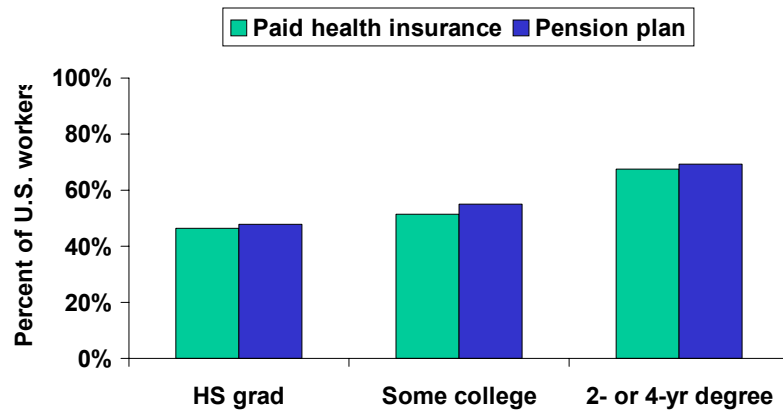
As important as earnings may be in the decision to consider lateral entry from civilian work to the Navy, other financial factors will also influence the decision. Benefits are frequently broken down by the following categories: Social Security, 401(k) type of plans (typically voluntary savings plans that have tax advantages that are portable if the employee leaves the employer), pensions (not typically voluntary to the worker and may not be portable), disability benefits, health insurance, and paid days off from work. Many workers do not have all

69. Bear in mind, however, that the Navy can frequently offer recruits from the traditional market excellent training, potentially superior benefits such as health care, and job security at least through the length of the contract.

of these benefits but instead receive some combination of them. Two of the most valuable benefits (in terms of cost of provision) are employer-provided pension plans and medical benefits. For this reason, we focus on these benefits for the rest of this section.

Unfortunately, the Census data do not contain information about the availability of employer-provided pension plans or medical insurance at the individual level, so we cannot use this data source to identify which workers have these benefits and which do not. Instead, we use the Current Population Survey (CPS), a smaller dataset, to look at the availability of these benefits among U.S. workers by education group and occupation.⁷⁰ Figures 22 and 23 show that paid health insurance and pension plans vary somewhat by education level, but they vary even more by occupation.⁷¹

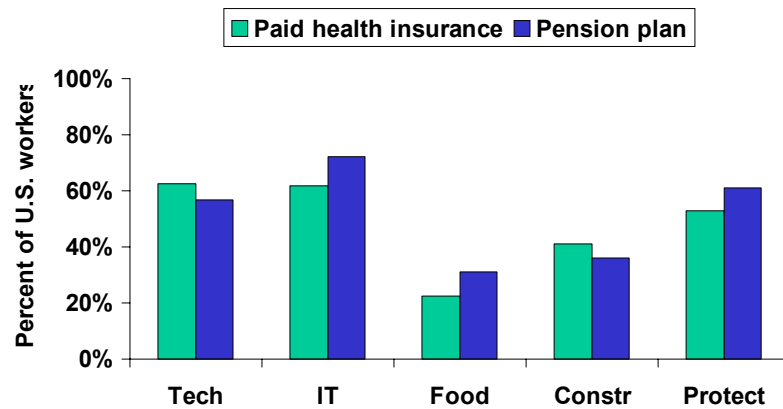
Figure 22. Percentage of U.S. workers who have paid health insurance and pension plans, by education level



70. Our CPS sample is constructed to be identical to our Census sample in terms of age, citizenship, and so on. We use the March CPS sample and combine multiple years of data to produce a sample of sufficient size. The results reported here include 1998 through 2002, the years surrounding 2000, when the Census data were collected.

71. The pension plan data in figures 22 and 23 include both defined contribution plans and defined benefit plans.

Figure 23. Percentage of U.S. workers who have paid health insurance and pension plans, by occupation



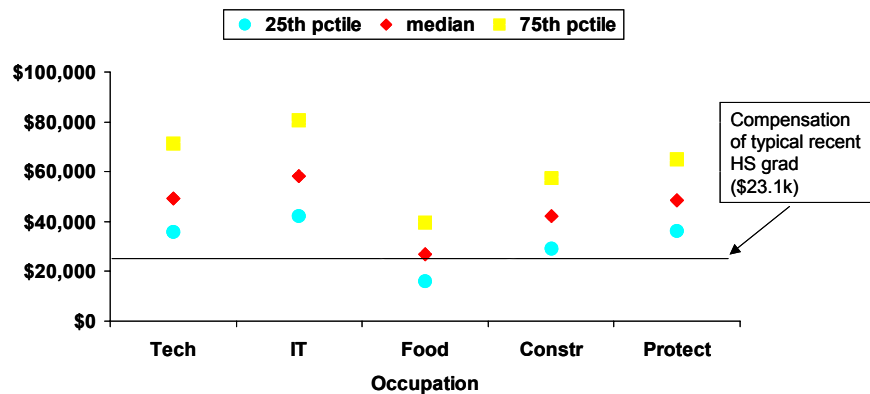
Figures 22 and 23 indicate that the difficulties the Navy may have in attracting workers in the tech fields and IT will be compounded by the availability of pension plans and medical benefits in these occupations. Similarly, potential lateral entrants with college degrees, regardless of occupation, are more likely than other workers to have pension plans and medical benefits available to them.

We would like to know exactly what these benefits are worth. The CPS data do not include the actual dollar values; indeed, such information does not exist on any similar survey. So, we use other sources to attain a rough estimate of dollar values. The June 2005 Bureau of Labor Statistics (BLS) report, “Employer Costs for Employee Compensation,” contains data collected from employers that suggest that benefits are worth 42 percent of wages and salaries, or about 30 percent of total compensation. Other sources generally agree with this estimate.⁷² The BLS report also provides data on the value of benefits by occupation. In particular, those in the hospitality industry, which includes food service, receive fewer benefits than others. (This is consistent with the CPS data.) Consequently, we assume that, for those in the

72. See, for example, Council on Foundations 2004 Grantmakers Benefits and Salary Report, as well as mysalary.com.

technical, IT, construction, and protective areas, benefits are worth 30 percent of total compensation but only 20 percent for those in the food service occupations. Based on these estimates, figure 24 displays total compensation by occupation.

Figure 24. Distribution of earnings and estimated benefits for potential male lateral entrants age 25 to 29, by occupation



In figure 24, we estimate that male workers age 25 to 29 in the IT fields who are compensated at the 75th percentile of compensation distribution will have a compensation package worth over \$80,000. Similarly situated tech workers have estimated compensation of around \$70,000. A challenge will be to find a military pay equivalent to these figures. However, those paid at the 25th percentile have estimated compensation that is roughly half the size of those at the 75th percentile. This indicates again the substantial variation in civilian earnings/compensation.

Even when we exclude those with 4-year degrees, estimated total compensation of those at the 75th percentile in the technical and IT occupations have compensation of \$65,000 to \$70,000 per year, while those at the 25th percentile have compensation worth slightly more than half as much. Figure 25 displays those results.

Figure 25. Distribution of earnings and estimated benefits for potential male lateral entrants age 25 to 29 excluding those with 4-year college degrees, by occupation

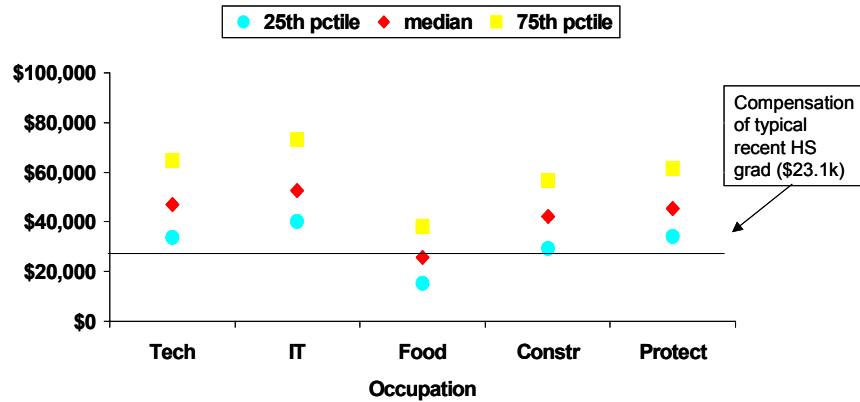


Figure 25 illustrates that both the value and the variation of estimated compensation for male workers age 25 to 29 in the food and construction industries is far lower than that for the tech and IT fields. In particular, median compensation in the food industry for 25- to 29-year-old males without 4-year college degrees appears to be close to that of the recent high school graduate, the Navy’s traditional recruit.

Challenges of military-civilian compensation comparisons

Our analysis of earnings and other elements of compensation for potential lateral entrants has so far focused on differences across occupations and education levels. However, an equally important aspect of analyzing civilian compensation is how it compares with military compensation. Unfortunately, comparing civilian and military compensation is very difficult.

The DoD Quadrennial Review of Military Compensation (QRMC) periodically produces a report that includes a thorough comparison of civilian and military pay. DoD tries to set military pay at about the 70th percentile of civilian pay for similarly situated workers (that is, for workers with similar education levels, occupation, and experience). The QRMC defines civilian pay as wages/salaries for full-time,

full-year male workers with high school diplomas. Military pay is defined as regular military compensation (RMC), which includes basic pay, the allowance for housing, the subsistence allowance, and an estimate of the tax advantage from the housing and subsistence allowances. Note that neither of these measures includes a comparison of benefits.

The authors of the 9th QRMC note that RMC tracks the 70th percentile of civilian compensation closely, but they argue that this comparison is no longer accurate (see [24]). The education level of many Servicemembers has increased, just as the premium for education in the civilian world has increased. The authors recommend that adjustments may be needed, especially at the mid- and senior-grade enlisted levels.⁷³ Unfortunately, this is exactly the paygrade level in which we are most interested for lateral entry.

Moreover, the most recent QRMC indicates that there are a number of benefits available to Servicemembers but not typically to civilians, which makes it difficult to formulate a comparison [24]. Also, note that the military factors in retirement pay, but not Social Security benefits, whereas Social Security benefits are a big driver in civilian employers' benefit costs. In fact, the comparison of military-civilian compensation is sufficiently complex that we recommend that the Navy consider doing a much more detailed analysis once it identifies an occupation of particular interest.

In general, potential lateral entrants who have few workplace benefits may find the Navy to be an attractive employer. For workers with more generous benefits, the Navy will be less attractive, especially with regard to retirement benefits. Under the current military compensation system, lateral entrants must stay 20 years to receive retirement pay, and only a small portion of savings are portable.

73. They examine “total pay” = RMC + special pays + bonuses + allowances/ COLAs. Because military pay varies less than civilian pay, they track 30th and 90th percentile of enlisted pay versus 30th and 90th percentile of civilians with some college experience. They demonstrate that the military pays lie within the civilian pays (30th percentile military > 30th percentile civilian, but 90th percentile military < 90th percentile civilian).

Revisiting pretrained lateral entrants and apprenticeship programs

Given the challenges of the market, the Navy may have to scale back initial attempts to recruit lateral entrants who have work experience but no prior military service. Instead, the Navy could reconsider the lateral entry market for *pretrained* workers (e.g., those who acquire appropriate training in the civilian sector but do not yet have work experience). Although recruiting pretrained workers may not solve a mid-grade retention problem or fill emerging requirements as quickly as recruiting experienced lateral entrants would, it at least provides another option to expanding the personnel system at the juniormost level.

Pretrained recruits

Recall that NPS lateral entrants can be divided into two groups. Both have relevant education and training, but one group has work experience in the civilian sector and one group does not (i.e., pretrained recruits). The Navy may benefit in two ways from recruiting in the pretrained market. First, the Navy may be able to easily evaluate the training and education that a recruit has received because it is subject to common, generally accepted standards. At the same time, the Navy does not have to try to evaluate the work experience of these potential recruits. Second, Navy training that overlaps with civilian training could be eliminated. This could reduce recruits' time to train, decrease time to the fleet, and significantly reduce the total billets devoted to entry-level paygrades required for initial skills training.

Previous CNA research [20 and 25] has shown a significant overlap between Navy and civilian training in many technical fields with lengthy occupational training. For example, there are 125 Associate degree programs in electronics engineering technology in 2- and 4-year colleges across the nation that are accredited by the Accrediting Board for Engineering and Technology (ABET). An ABET credential guarantees that a certain core curriculum and standard of quality instruction exists in each of these institutions. The Navy recruits thousands of people each year into numerous ratings that require a significant portion of the same instruction that these programs offer.

Hence, the Navy could establish a program in which recent graduates of any of these programs who access into one of these ratings could eliminate training in topics that coincide with the ABET curriculum.

Table 13 displays a notional organization of ratings that have potential overlap with civilian training, with ratings defined as having either lengthy or short training, and either little, moderate, or significant civilian overlap. We also note which ratings are currently critically undermanned in the E1–E4, E5, or E6 paygrades (see [26]).

Table 13. Categories of ratings by length of training and degree of civilian overlap^a

Lengthy training			Short training		
Little civilian overlap	Moderate civilian overlap	Significant civilian overlap	Little civilian overlap	Moderate civilian overlap	Significant civilian overlap
IS*	AE	CTI	ABE	AME	A*
ND**	AT	HM*	ABF	AM	AD
EOD**	AW*	IT*	ABH		AG
Nuclear Field**	CTM	MU*	AO	AS	BU
SO**	CTR*		AZ	BM	CE*
	EM		CTA	CTT	CM*
	EN		DC	LN*	CS
	ET*		PC	MA	EA
	FC*		PS	MN	EO*
	FT		PR	NC	HT
	GM			OS*	MM*
	GSE			QM	MR
	GSM			RP	SW
	IC			SH	UT
	MC			SK	
	MT			STG*	
	STS*			TM	
				YN	

a. * indicates that rating was CREO 1 for paygrades E1 to E4 as of March 2007; ** denotes it was CREO 1 for paygrades E1 to E5; *** denotes it was CREO 1 for E6 only. All other ratings were CREO 2 or 3 for paygrades E1 to E6.

The Cryptologic Technician Interpretive (CTI) rating provides a good example of how training time may be reduced by recruiting in the pretrained market. These Sailors, who train to be the Navy's

linguists, receive intensive language training for up to 63 weeks, depending on the language and their proficiency before accessing. Their technical training is far shorter—from 4 to 19 weeks. Lateral entry recruits who are already proficient in a language that requires the longest language training could therefore reduce their total training time by 77 to 94 percent, depending on the length of their technical training.

Apprenticeship programs

Incorporating mid- and senior-level lateral entrants without prior military service into the personnel system poses many challenges. How can civilian experience be quantified? How much does it matter what industry the experience was in, which specific pieces of equipment have been trained on, or what other credentials have been earned since graduating? Since “experience” usually has no standard to be measured against, the task of determining what paygrade, rating, and NECs to award a mid- or senior-level lateral entrant quickly becomes complicated. The national apprenticeship model that is used in skilled trades may help provide a useful standard.

Apprenticeship programs are formal arrangements that provide classroom and on-the-job training (OJT) in a specific trade. OJT can take place under the supervision of a licensed journeyman or master in the trade, as well as in classroom training. In some instances, the apprenticeship may take the form of a certificate or degree program in a community or technical college. For many of the trades, entry-level workers enter an apprenticeship program that lasts anywhere from a few weeks to several years.

Apprenticeship programs that are registered with the U.S. Department of Labor are required to meet certain standards regarding the minimum number of hours of both instruction and OJT, wage rates, evaluation, and supervision. On completion, participants are awarded a nationally recognized credentialing certificate. Because of these standards, we focus exclusively on government-registered apprenticeships.

In 2003, more than 480,000 U.S. apprentices were receiving registered apprenticeship training in almost 30,000 programs, in over 800

occupations, under the National Apprenticeship System. Historically, apprenticeship occupations have predominantly been in the building trades, metalworking trades, and repair occupations. A recent Government Accountability Office (GAO) report noted that construction and manufacturing apprenticeships remain the most common—making up 82 percent of all apprenticeships. In particular, 73 percent were construction, 9 percent were manufacturing, 2 percent were communications/transportation, 2 percent were health, 1 percent were services, and the remaining 13 percent were other (see [27]).⁷⁴

Within the construction industry, the five largest occupations are carpenters, electricians, pipefitters, plumbers, and sheetmetal workers. The norm for apprenticeship training in these occupations is 8,000 hours of OJT and 576 hours of classroom instruction (see [28]).

In recognition of the importance of these federally registered apprenticeships, the Services established the United Services Military Apprenticeship Program (USMAP), which is the U.S. Department of Labor sponsor for all military apprenticeships. According to the USMAP website (<https://usmap.usmapss/static/usmap.jsp>):

The United Services Military Apprenticeship Program (USMAP) is a formal military training program that provides active duty Coast Guard, Marine Corps, and Navy service members the opportunity to improve their job skills and to complete their civilian apprenticeship requirements while they are on active duty. The U.S. Department of Labor (DOL) provides the nationally recognized “Certificate of Completion” upon program completion.

Appendix C is a list of all of the current apprenticeships available to enlisted Sailors through this program. The USMAP website cited as a source for that information provides a link from each trade to a description of the relevant ratings and NECs, skills areas, and the work hours required in each skill area.

The USMAP program provides a road map between Navy and civilian comparable training and experience that helps Sailors find related

74. Percentages reported in [27] are from 36 states that report such data as of September 2000.

jobs when they leave the Navy. The program certifies their level of competency so that a civilian employer has a better understanding of the level of training, experience, and expertise of the Sailor.

This process could work in the other direction for the Navy. This same certification awarded to a civilian helps the Navy to know the level of training, experience, and expertise of NPS lateral entrants. This could significantly help guide where lateral entrants would most appropriately fit in the Navy personnel system, in terms of both rating and perhaps paygrade.

Summary and conclusions for NPS lateral entrants

The market for NPS lateral entrants is potentially large, more so for men than women. The earnings profiles of these potential lateral entrants in occupations of interest to the Navy rise significantly with experience and with education. Therefore, the Navy may have to provide significant financial resources to be attractive to these workers. Moreover, the Navy's retirement system, in which Sailors vest only after 20 years of service and which provides no portability, is not likely to be attractive to many civilian workers who have more flexible options. The data suggest that, to successfully attract NPS lateral entrants, the Navy may do well to avoid the 4-year college degree market and to target populations with lower chances of having employer-provided pension plans and health benefits.

The Navy will face other serious challenges to incorporating lateral entrants into its personnel system. One of the biggest hurdles will be how to evaluate civilian work experience. While the Navy considers ways of evaluating civilian work experience, it might consider expanding into the pretrained recruit market. These potential recruits need only be evaluated on education that has generally accepted standards, and they may save the Navy costs associated with time to train and time to the fleet.

Likewise, the Navy might consider strengthening its relationship with apprenticeship programs. This would allow the Navy to recruit from a population for which education, training, and OJT experience can be evaluated by common standards under well-supervised conditions.

Appendix A: Logit estimates of probability of reenlisting in lower paygrade

Table 14 displays the logistic regression results of the probability of reenlisting in a lower paygrade. The sample included NAVETs who returned in the same rating.

Table 14. Logistic regression results: probability of reenlisting in lower paygrade^a

Variable	Coefficient	Standard error	Z-score	p-value
E5-Fast to E5	1.36	0.14	9.72	0.00
E5-Other	1.51	0.15	9.91	0.00
E6-Fast to E6	2.63	0.39	6.68	0.00
E6-Other	2.89	0.34	8.61	0.00
Less than 7 months gap	-2.19	0.20	-10.72	0.00
7 to 12 months gap	-1.41	0.17	-8.32	0.00
13 to 24 months gap	-0.97	0.15	-6.63	0.00
25 to 36 months gap	-0.66	0.15	-4.37	0.00
37 to 48 months gap	-0.43	0.18	-2.41	0.02
LOS first enlistment	-0.03	0.00	-8.75	0.00
Male	0.07	0.18	0.41	0.69
HSDG	0.02	0.25	0.09	0.93
API	-0.25	0.31	-0.80	0.42
Black	0.22	0.13	1.75	0.08
Hispanic	-0.07	0.18	-0.37	0.71
Other	0.02	0.27	0.06	0.95
Nuclear Field	-2.39	0.74	-3.25	0.00
Medical	1.33	0.20	6.76	0.00
Aviation	0.00	0.12	-0.03	0.97
Submarine	-0.04	0.22	-0.16	0.87
Seabee	0.75	0.30	2.51	0.01
Special Warfare	-0.49	0.55	-0.90	0.37
FY 1995	0.35	0.39	0.90	0.37

Table 14. Logistic regression results: probability of reenlisting in lower paygrade^a (continued)

Variable	Coefficient	Standard error	Z-score	p-value
FY 1996	-0.10	0.39	-0.26	0.80
FY 1997	0.58	0.43	1.36	0.17
FY 1998	1.09	0.42	2.61	0.01
FY 1999	0.49	0.40	1.23	0.22
FY 2000	0.30	0.39	0.77	0.44
FY 2001	0.50	0.38	1.30	0.20
FY 2002	0.43	0.38	1.12	0.26
FY 2003	1.12	0.41	2.74	0.01
FY 2004	1.49	0.49	3.01	0.00
Constant	-0.85	0.51	-1.67	0.10
Sample size	5,209			
Pseudo R ²	.1187			

a. Includes FY 1995–2000 NAVETs.

Appendix B: Logit estimates of probability of attriting

Table 15 displays the logistic regression results for the probability of attriting from active duty after returning from a break in service. The sample is limited to NAVETs in paygrades E4-E6 who initially left the Navy in FY 1995-2000.

Table 15. Logistic regression results: probability of attriting^a

Variable	Coefficient	Standard Error	Z-score	p-value
Same rating	0.62	0.09	6.56	0.00
Access lower paygrade	0.33	0.11	3.04	0.00
E5-Fast to E5	-0.19	0.14	-1.33	0.18
E5-Other	-0.31	0.16	-1.96	0.05
E6-Fast to E6	0.15	0.40	0.36	0.72
E6-Other	-0.36	0.43	-0.84	0.40
Less than 7 months gap	-0.87	0.17	-5.26	0.00
7 to 12 months gap	-0.60	0.15	-3.91	0.00
13 to 24 months gap	-0.46	0.14	-3.29	0.00
25 to 36 months gap	-0.42	0.14	-2.92	0.00
37 to 48 months gap	-0.23	0.17	-1.33	0.18
LOS first enlistment	-0.01	0.00	-3.56	0.00
Male	-0.19	0.13	-1.43	0.15
HSDG	-0.75	0.15	-4.89	0.00
API	-0.59	0.28	-2.10	0.04
Black	0.35	0.09	3.77	0.00
Hispanic	-0.08	0.14	-0.54	0.59
Other	-0.21	0.31	-0.66	0.51
Nuclear Field	0.22	0.37	0.58	0.56
Medical	-0.15	0.21	-0.73	0.46
Aviation	-0.08	0.10	-0.87	0.38
Submarine	-0.24	0.18	-1.33	0.18
Seabee	0.40	0.31	1.28	0.20

Table 15. Logistic regression results: probability of attriting^a (continued)

Variable	Coefficient	Standard Error	Z-score	p-value
Special Warfare	-0.02	0.40	-0.05	0.96
FY 1995	0.87	0.13	6.72	0.00
FY 1996	0.60	0.12	5.00	0.00
FY 1997	0.78	0.15	5.11	0.00
FY 1998	0.29	0.17	1.73	0.08
FY 1999	0.26	0.14	1.92	0.06
Constant	-0.47	0.28	-1.67	0.10
Sample size	4,891			
Pseudo R ²	.0571			

a. Includes FY 1995–2000 NAVETs who separated in paygrades E4-E6.

Appendix C: Registered Navy apprenticeships

Table 16 contains the list of occupations in which an active duty Sailor could take an apprenticeship.

Table 16. Registered apprenticeships available for active duty Navy^a

Rating	Occupational title	Required hours	Required instruction hours
AB	Fire Fighter, Crash, Fire & Rescue	2,000	144
AB	Fire Fighter (Any Industry)	2,000	144
AB	Fuel System Maintenance Worker	4,000	288
AB	Maintenance Mechanic (Any Industry)	8,000	576
AB	Pumper-Gauger	2,000	144
AD	Powerplant Mechanic	3,000	216
AE	Electrician, Aircraft	8,000	576
AG	Meteorologist (Profess & Kin)	6,000	432
AG	Weather Observer (Profess & Kin)	4,000	288
ALL	Computer-Peripheral-Equipment Operator	2,000	144
ALL	Correction Officer	2,000	144
ALL	Counselor	4,000	288
ALL	Police Officer I (Gov't Service)	4,000	288
AM	Aircraft Mechanic, Plumbing & Hydraulics	8,000	576
AM	Airframe Mechanic	3,100	223
AM	Aviation Safety Equipment Technician	8,000	576
AM	Nondestructive Tester	2,000	144
AM	Sheet Metal Worker (Any Industry)	8,000	576
AM	Welder, Combination	6,000	432
AO	Ordnance Artificer (Gov't Service)	4,000	288
AQ	Electronics Tester	6,000	432
AS	Aviation Support Equipment Repairer	8,000	576
AS	Electrician, Maintenance (Any Industry)	8,000	576
AS	Maintenance Mechanic (Any Industry)	8,000	576
AT	Calibration Laboratory Technician	8,000	576
AT	Electronics Mechanic	8,000	576

Table 16. Registered apprenticeships available for active duty Navy^a (continued)

Rating	Occupational title	Required hours	Required instruction hours
AT	Electronics Tester	6,000	432
AT	Optical-Instrument Assembler	4,000	288
AW	Computer-Peripheral-Equipment Operator	2,000	144
AX	Electronics Tester	6,000	432
AZ	Computer-Peripheral-Equipment Operator	2,000	144
BM	Canvas Worker	4,000	288
BM	Rigger (Any Industry)	8,000	576
BM	Rigger (Ship & Boat Bldg)	4,000	288
BM	Upholsterer, Inside	6,000	432
BU	Carpenter (Construction)	8,000	576
BU	Cement Mason (Construction)	6,000	432
CE	Electrician (Construction)	8,000	576
CE	Electrician, Maintenance (Any Industry)	8,000	576
CE	Electric-Motor Repairer (Any Industry)	8,000	576
CE	Hydroelectric-Machinery Mechanic	4,000	288
CE	Maintenance Mechanic, Telephone	8,000	576
CE	Station Installer & Repairer	8,000	576
CM	Automobile Mechanic	8,000	576
CM	Diesel Mechanic	8,000	576
CS	Baker (Bake Products)	6,000	432
CS	Cook (Any Industry)	6,000	432
CS	Household Manager	4,000	288
CS	Housekeeper (Comm, Res, Industry)	2,000	144
CS	Manager, Food Service	6,000	432
CTA	Computer-Peripheral-Equipment Operator	2,000	144
CTA	Internetworking Technician	5,000	360
CTM	Computer Peripheral Equipment Operator	2,000	144
CTM	Computer Programmer	4,000	288
CTM	Electrician (Construction)	8,000	576
CTM	Electrician, Maintenance (Any Industry)	8,000	576
CTM	Electric-Motor Repairer (Any Industry)	8,000	576
CTM	Electronics Mechanic	8,000	576
CTM	Electronics Tester	6,000	432
CTM	Internetworking Technician	5,000	360
CTN	Internetworking Technician	5,000	360
CTO	Computer-Peripheral-Equipment Operator	2,000	144
CTO	Computer Programmer	4,000	288

Table 16. Registered apprenticeships available for active duty Navy^a (continued)

Rating	Occupational title	Required hours	Required instruction hours
CTO	Internetworking Technician	5,000	360
CTR	Computer-Peripheral-Equipment Operator	2,000	144
CTR	Computer Programmer	4,000	288
CTR	Internetworking Technician	5,000	360
CTR	Radio Station Operator	8,000	576
CTT	Computer Programmer	4,000	288
CTT	Computer-Peripheral-Equipment Operator	2,000	144
CTT	Internetworking Technician	5,000	360
CTT	Radio Station Operator	8,000	576
DC	Fire Fighter (Any Industry)	2,000	144
DC	Pump Repairer (Any Industry)	6,000	432
DM	Drafter, Architectural (Pro & Kin)	8,000	576
DM	Illustrator (Pro & Kin)	8,000	576
DM	Silk-Screen Cutter (Any Industry)	6,000	432
DK	Office Manager/Administrative Services	4,000	288
DS	Electronics Tester	6,000	432
DT	Dental Assistant (Medical Service)	2,000	144
DT	Dental-Equipment Installer & Servicer	6,000	432
DT	Dental-Laboratory Technician	6,000	432
EA	Drafter, Architectural (Pro & Kin)	8,000	576
EA	Drafter, Civil (Pro & Kin)	6,000	432
EM	Calibration Laboratory Technician	8,000	576
EM	Electrician (Construction)	8,000	576
EM	Electrician, Maintenance (Any Industry)	8,000	576
EM	Electrician (Ship & Boat)	8,000	576
EM	Electric-Motor Repairer (Any Industry)	8,000	576
EM	Hydroelectric-Machinery Mechanic	4,000	288
EN	Diesel Mechanic	8,000	576
EN	Fuel System Maintenance Worker	4,000	288
EN	Hydroelectric-Machinery Mechanic	4,000	288
EN	Machinist, Outside (Ship)	10,000	720
EN	Maintenance Mechanic (Any Industry)	8,000	576
EN	Pumper-Gauger	2,000	144
EN	Pump Repairer (Any Industry)	6,000	432
EN	Refrigeration Mechanic (Any Industry)	8,000	576
EO	Operating Engineer (Construction)	8,000	576
ET	Calibration Laboratory Technician	8,000	576

Table 16. Registered apprenticeships available for active duty Navy^a (continued)

Rating	Occupational title	Required hours	Required instruction hours
ET	Computer Programmer	4,000	288
ET	Electrician (Construction)	8,000	576
ET	Electrician, Maintenance (Any Industry)	8,000	576
ET	Electric-Motor Repairer (Any Industry)	8,000	576
ET	Electronics Mechanic	8,000	576
ET	Electronics Technician	8,000	576
ET	Electronics Tester	6,000	432
ET	Internetworking Technician	5,000	360
EW	Electrician, Maintenance (Any Industry)	8,000	576
EW	Electronics Mechanic	8,000	576
EW	Electronics Tester	6,000	432
FC	Computer Programmer	4,000	288
FC	Electronics Mechanic	8,000	576
FC	Electronics Technician	8,000	576
FC	Electronics Tester	6,000	432
FC	Optical-Instrument Assembler	4,000	288
FC	Ordnance Artificer (Gov't Service)	4,000	288
FT	Computer Programmer	4,000	288
FT	Electronics Mechanic	8,000	576
FT	Electronics Tester	6,000	432
FT	Internetworking Technician	5,000	360
FT	Ordnance Artificer (Gov't Service)	4,000	288
GM	Electronics Mechanic	8,000	576
GM	Electronics Tester	6,000	432
GM	Ordnance Artificer (Gov't Service)	4,000	288
GS	Electrician, Maintenance	8,000	576
GS	Fuel System Maintenance Worker (w/fuels course)	4,000	288
GS	Hydroelectric-Machinery Mechanic	4,000	288
GS	Maintenance Mechanic (Any Industry)	8,000	576
GS	Power-Plant Operator (Utilities)	6,000	432
GS	Pumper-Gauger	2,000	144
HM	Electromedical Equipment Repairer	8,000	576
HM	Electronics Tester	6,000	432
HM	Emergency Medical Technician	6,000	432
HM	Medical Laboratory Technician	4,000	288
HM	Medical Secretary (Medical Service)	2,000	144
HM	Nurse Assistant (Medical Service)	2,000	144

Table 16. Registered apprenticeships available for active duty Navy^a (continued)

Rating	Occupational title	Required hours	Required instruction hours
HM	Paramedic (Medical Service)	4,000	288
HM	Pharmacist Assistant (Mil Serv)	2,000	144
HM	X-ray Equipment Tester (Any Industry)	4,000	288
HT	Marine-Services Technician	6,000	432
HT	Nondestructive Tester	2,000	144
HT	Pipe Coverer & Insulator	8,000	576
HT	Pipe Fitter (Construction)	8,000	576
HT	Pipe Fitter (Ship & Boat Mfg)	8,000	576
HT	Pump Repairer (Any Industry)	6,000	432
HT	Rigger (Any Industry)	8,000	576
HT	Rigger (Ship & Boat Bldg)	4,000	288
HT	Sheet Metal Worker (Any Industry)	8,000	576
HT	Shipfitter (Ship & Boat)	8,000	576
HT	Upholsterer, Inside	6,000	432
HT	Welder, Combination	6,000	432
IC	Audio-Video Repairer	6,000	432
IC	Calibration Laboratory Technician	8,000	576
IC	Electrician (Construction)	8,000	576
IC	Electrician, Maintenance (Any Industry)	8,000	576
IC	Electronics Mechanic	8,000	576
IC	Electronics Tester	6,000	432
IC	Maintenance Mechanic, Telephone	8,000	576
IC	Optical-Instrument Assembler	4,000	288
IC	Station Installer & Repairer	8,000	576
IC	Television and Radio Repairer	8,000	576
IS	Computer Peripheral-Equipment Operator	2,000	144
IT/RM	Computer Peripheral-Equipment Operator	2,000	144
IT/RM	Computer Programmer	4,000	288
IT/RM	Electronics Mechanic	8,000	576
IT/RM	Electronics Tester	6,000	432
IT/RM	Internetworking Technician	5,000	360
IT/RM	Radio Station Operator	8,000	576
JO	Program Assistant (Radio-TV Broad)	6,000	432
JO	Recording Engineer (Radio-TV Broad)	4,000	288
LI	Offset-Press Operator I	8,000	576
LI	Silk-Screen Cutter (Any Industry)	6,000	432
LN	Legal Secretary (Clerical)	2,000	144

Table 16. Registered apprenticeships available for active duty Navy^a (continued)

Rating	Occupational title	Required hours	Required instruction hours
LN	Office Manager/Administrative Services	4,000	288
LN	Paralegal (Pro & Kin)	6,000	432
MA	Correction Officer (See Additional Instruction Requirements Page)	2,000	144
MA	Locksmith (Any Industry)	8,000	576
MA	Police Officer I (Gov't Service)	4,000	288
MM	Boiler House Mechanic	8,000	576
MM	Diesel Mechanic (Submarine Community)	8,000	576
MM	Electronics Mechanic	8,000	576
MM	Hydroelectric-Machinery Mechanic	4,000	288
MM	Machinist, Outside (Ship)	10,000	720
MM	Maintenance Mechanic (Any Industry)	8,000	576
MM	Ordnance Artificer (Gov't Service)	4,000	288
MM	Pipe Coverer & Insulator	8,000	576
MM	Power-Plant Operator (Utilities)	6,000	432
MM	Pumper-Gauger	2,000	144
MM	Pump Repairer (Any Industry)	6,000	432
MM	Refrigeration Mechanic (Any Industry)	8,000	576
MN	Electrician (Construction)	8,000	576
MN	Ordnance Artificer (Gov't Service)	4,000	288
MR	Locksmith (Any Industry)	8,000	576
MR	Machinist	8,000	576
MR	Pump Repairer (Any Industry)	6,000	432
MT	Electronics Mechanic	8,000	576
MT	Electronics Tester	6,000	432
MT	Ordnance Artificer (Gov't Service)	4,000	288
NC	Counselor	4,000	288
NC	Office Manager/Administrative Services	4,000	288
OS	Computer-Peripheral-Equipment Operator	2,000	144
TM	Electronics Tester	6,000	432
PC	Post-Office Clerk (Gov't Service)	4,000	288
PH	Camera Operator	6,000	432
PH	Camera Repairer	4,000	288
PH	Photographer, Still (Pro & Kin)	6,000	432
PH	Silk-Screen Cutter (Any Industry)	6,000	432
PN	Computer-Peripheral-Equipment Operator	2,000	144
PN	Office Manager/Administrative Services	4,000	288

Table 16. Registered apprenticeships available for active duty Navy^a (continued)

Rating	Occupational title	Required hours	Required instruction hours
PR	Aviation Safety Equipment Technician	8,000	576
PR	Upholsterer, Inside	6,000	432
QM	Weather Observer (Profess & Kin)	4,000	288
RP	Computer-Peripheral-Equipment Operator	2,000	144
RP	Office Manager/Administrative Services	4,000	288
SH	Barber (Personal Service)	2,000	144
SH	Computer-Peripheral-Equipment Operator	2,000	144
SH	Manager, Retail Store (Retail Trade)	6,000	432
SK	Computer-Peripheral-Equipment Operator	2,000	144
SK	Manager, Retail Store (Retail Trade)	6,000	432
SK	Purchasing Agent	8,000	576
ST	Computer-Peripheral-Equipment Operator	2,000	144
ST	Electronics Mechanic	8,000	576
ST	Electronics Tester	6,000	432
ST	Internetworking Technician	5,000	360
SW	Rigger (Any Industry)	8,000	576
SW	Sheet Metal Worker (Any Industry)	8,000	576
SW	Welder, Combination	6,000	432
TM	Electronics Mechanic (must hold NEC 0750 or 0751)	8,000	576
TM	Maintenance Mechanic (Any Industry)	8,000	576
TM	Ordnance Artificer (Gov't Service)	4,000	288
UT	Hydroelectric-Machinery Mechanic	4,000	288
UT	Pipe Coverer & Insulator	8,000	576
UT	Pipe Fitter (Construction)	8,000	576
UT	Refrigeration Mechanic (Any Industry)	8,000	576
UT	Water-Treatment-Plant Operator	6,000	432
YN	Computer-Peripheral-Equipment Operator	2,000	144
YN	Legal Secretary (Clerical)	2,000	144
YN	Office Manager/Administrative Services	4,000	288

a. Source: United States Military Apprenticeship Program website, accessed November 2, 2005 (https://www.cnet.navy.mil/usmap/usn_trades.html).

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References

- [1] J. Eric Fredland et al. (eds.). *Professionals on the Front Line: Two Decades of the All-Volunteer Force*. Washington, DC: Brassey's, 1996
- [2] Martha E. Koopman and Heidi L. W. Golding. *Optimal Manning and Technological Change*, Jul 1999 (CNA Research Memorandum 99-59)
- [3] Margaret Roth. "New Technologies, Changing Priorities Foretell Need for Fewer Naval Personnel." *Sea Power*, Jun 2004: 25–26
- [4] Margaret Roth. "Only Highly Trained Need Apply in Navy's 'New World' of Optimal Manning." *Sea Power*, Dec 2004: 14–15
- [5] Otto Kreisher. "Optimal Manning: U.S. Navy Seeks Savings While Meeting Operational Needs." *Naval Forces Special Issue*, Vol. 26, 2005: 80–85
- [6] Congressional Budget Office. *Recruiting, Retention, and Future Levels of Military Personnel*, Oct 2006 (CBO Publication No. 2777)
- [7] Martha E. Koopman. *Creating Innovative Career Paths*, Jan 2006 (CNA Research Memorandum D0013254/Final)
- [8] Michael L. Hansen and Jennie W. Wenger, with Albert B. Monroe IV and Henry S. Griffis. *Is Enlisted Retention Too High?* Oct 2003 (CNA Research Memorandum D0008594.A2)
- [9] Michael L. Hansen with David Gregory and Henry S. Griffis. *Junior Work Requirements and the Steady State Accession Mission*, Nov 2004 (CNA Research Memorandum D0010608.A2)
- [10] Laura J. Junor. *Military Readiness: Meeting the Challenge*. Jun 2000 (CNA Research Memorandum D0000722.A1)

- [11] R. Trost and M. Ye. *Does Maintainer Experience Help Explain the Downturn in Readiness?* Aug 2001 (CNA Annotated Briefing D0003880.A1)
- [12] Dana L. Brookshire with Kletus S. Lawler. *Improving Reenlistment Incentives and Processes: Analysis of the Perform-to-Serve Program*, Jan 2007 (CNA Research Memorandum D0015241.A2)
- [13] Michael L. Hansen and Martha E. Koopman. *Military Compensation Reform in the Department of the Navy*, Dec 2005 (CNA Research Memorandum D0012889.A2)
- [14] John T. Warner. *Thinking About Military Retirement*, Jan 2006 (CNA Research Memorandum D0013583.A1)
- [15] Defense Advisory Committee on Military Compensation. Report to the Secretary of Defense. *The Military Compensation System: Completing the Transition to an All-Volunteer Force*, Apr 2006 (available at <http://www.defenselink.mil/prhome/dacmc.html>)
- [16] Robert M. Howie and Laurence A. Shapero. "Lifestyle Discrimination Statutes: A Dangerous Erosion of At-Will Employment, a Passing Fad, or Both?" *Employee Relations Law Journal*, Vol. 31, No. 1, Summer 2005: 21-38
- [17] Department of the Navy, COMNAVCRUITCOMINST 1130.8G, Apr 2005
- [18] Dina Levy et al. *Expanding Enlisted Lateral Entry: Options and Feasibility*, 2004 (National Defense Research Institute (RAND Corporation) MG-134)
- [19] Karen W. Tyson and Stanley A. Horowitz. *Lateral Entry of Military Personnel*, Mar 1992 (Institute for Defense Analyses (Document IDA-P-2565))
- [20] Peggy A. Golfin, John D. White, and Lisa A. Curtin, CDR, USN. *A Role for Community Colleges in Navy Training*, Mar 1998 (CNA Research Memorandum 97-97)

- [21] Peggy A. Golfin. *A Summary of Navy Recruiting Efforts in Community Colleges in FY1997*, Mar 1998 (CNA Research Memorandum 97-139)
- [22] Amanda Kraus and Jennie Wenger, with Lynda Houck and David Gregory. *College Recruits in the Enlisted Navy: Navy Outcomes and Civilian Opportunities*, Sep 2004 (CNA Research Memorandum D0010405.A2/Final)
- [23] National Center for Education Statistics. *Digest of Education Statistics*, Oct 2005
- [24] Office of the Secretary of Defense for Personnel and Readiness. *Report of the Ninth Quadrennial Review of Military Compensation: Volume 1*, Mar 2002
- [25] Peggy A. Golfin with Lisa A. Curtin, CDR, USN. *Partnerships With Community Colleges: Vehicle To Benefit Navy Training*, Mar 1998 (CNA Research Memorandum 97-144)
- [26] Department of the Navy, NAVADMIN 054/07, *Career Reenlistment Objectives*, 2 Mar 2007
- [27] Government Accountability Office. *Registered Apprenticeships: Labor Could Do More To Expand to Other Occupations*, Sep 2001 (GAO-01-940)
- [28] Cihan Bilginsoy. "The Hazards of Training: Attrition and Retention in Construction Industry Apprenticeship Programs." *Industrial & Labor Relations Review*, Vol. 57, Issue 1, 2003: 54-67

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List of figures

Figure 1. Current Navy enlisted manpower structure	7
Figure 2. Current experience levels of Navy Sailors	7
Figure 3. Proposed shift in Navy enlisted manpower	13
Figure 4. Future enlisted manpower structure	14
Figure 5. Future experience levels of Navy Sailors	15
Figure 6. PS accessions as a percentage of all enlisted accessions: FY 1978 to FY 2005	40
Figure 7. Historical trends in Navy PS accessions by branch of military	46
Figure 8. FY95-05 NAVET accessions versus current inventory	53
Figure 9. Percentage of NAVETS reenlisting in previously held rating	54
Figure 10. Months to full duty: NAVETs returning in same rating, NAVETs returning in different rating, and OSVETs	56
Figure 11. Predicted differences in NAVET attrition: FY 1995–2000	64
Figure 12. Attrition and separation prior to retirement of PS versus NPS Sailors	65
Figure 13. Percentage of Sailors who are E6 or higher by LOS	66

Figure 14. Sailors with 10 to 14 years of service who are E6 and above: NPS versus PS recruits	67
Figure 15. FY 2000–2005 reserve experience of PS recruits. . .	68
Figure 16. Potential male lateral entrants by age and education level	75
Figure 17. Potential female lateral entrants by age and education level	75
Figure 18. Potential male lateral entrants by age and occupation	78
Figure 19. Potential female lateral entrants by age and occupation	79
Figure 20. Median yearly earnings for potential male lateral entrants by age, education level, and occupation . .	81
Figure 21. Distribution of earnings for potential male lateral entrants by occupation, excluding those with 4-year college degrees	82
Figure 22. Percentage of U.S. workers who have paid health insurance and pension plans, by education level . .	83
Figure 23. Percentage of U.S. workers who have paid health insurance and pension plans, by occupation	84
Figure 24. Distribution of earnings and estimated benefits for potential male lateral entrants age 25 to 29, by occupation	85
Figure 25. Distribution of earnings and estimated benefits for potential male lateral entrants age 25 to 29 excluding those with 4-year college degrees, by occupation	86

List of tables

Table 1.	Recruiting requirements for NAVET PS recruits regarding maximum broken service and maximum prior service	42
Table 2.	Paygrade, median months of prior service, and reentry paygrade: FY 1995–2005 PS accessions	48
Table 3.	Quality of FY 1995–2005 PS recruits versus current inventory	49
Table 4.	Median gap in service and age at reentry: NAVETs FY 1995–2005	52
Table 5.	Percentage of NAVETs reenlisting at lower paygrades (FY 1995–2004)	57
Table 6.	Probability of NAVETs reenlisting at lower paygrade	60
Table 7.	Percentage and duration of demoted status of rated NAVETs: FY 1995–2004	62
Table 8.	Attrition of FY 1995–2000 PS recruits	63
Table 9.	Average months to fleet: FY 2000–2004 reservists with time in SELRES versus other PS recruits by EMC.	70
Table 10.	Percentage of NAVETs demoted by rank and reserve affiliation, FY 2000–2004	70
Table 11.	Occupational groupings	76
Table 12.	Median civilian yearly earnings for men, by education level and age	80

Table 13. Categories of ratings by length of training and degree of civilian overlap	89
Table 14. Logistic regression results: probability of reenlisting in lower paygrade	93
Table 15. Logistic regression results: probability of attriting	95
Table 16. Registered apprenticeships available for active duty Navy.	97

