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Final Report for CNA Study on Answering Decision-Makers' Questions: Organizing Training Information for Policy Analysis

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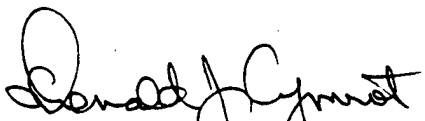

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A primary tasking for this study was to build a permanent database integrating Navy recruiting, training, and manpower/personnel data which would follow recruits from street to fleet and use variables designed to capture the kinds of information needed by decision-makers. This paper summarizes our analyses and briefly describes the database. it begins with the different analyses we did of the bootcamp period, goes on to a discussion of rating attainment, and finishes with our analyses of trained sailors in the fleet. Findings and recommendations include coding separation reasons more consistently, revising the CNET monthly bootcamp attrition report, more careful screening of sailors with nonacademic course failures who are sent to the fleet, and supporting initiatives to provide a second chance at school for sailors who fail an A-school course.

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Summary

Introduction

A primary tasking for this study was to build a permanent database integrating Navy recruiting, training, and manpower/personnel data. This database would:

- Follow recruits through bootcamp, A-school, and into their jobs as sailors in the fleet—from street to fleet
- Be analytically useful
  - — Use variables constructed from the administrative-record data
  - — Use variables designed to capture the kinds of information needed by decision-makers
  - — Provide policy-relevant information for the Chief of Naval Education and Training (CNET).

While building this database, we analyzed particular, specified topics, but we also agreed to analyze questions as they arose through the course of the study. We believe the flexibility that this tasking provided was important to achieving our objectives for the database because the variety of questions and topics we analyzed provided valuable direction as to what types of variables were needed to answer decision-makers' questions.

This paper summarizes our analyses and briefly describes the database.[1] It begins with the different analyses we did of the bootcamp period, goes on to a discussion of rating attainment, and finishes with our analyses of trained sailors in the fleet.

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1. A forthcoming CNA information memorandum will describe the database in more detail.

Recommendations for action

Though not all of the topics we explored generated recommendations for action, some of them did. Here we briefly review those findings and our recommendations:

- Bootcamp separation reasons are coded into two separate data systems, one administered by the training command and another by the personnel command. We compared separation reasons in the two systems for all recruits separated at bootcamp in FY 1996. The two systems are not consistent; they provide different pictures of the reasons for bootcamp attrition in FY 1996. We recommend making separation coding consistent, probably by constructing a table that maps codes from one system to the other.

- We spent considerable time analyzing bootcamp attrition, as well as investigating how to better calculate noncohort attrition rates. Our aim was to construct a real-time measure of bootcamp attrition that would capture only attrition behavior. Current measures capture both attrition behavior and accession phasing. We also studied what the CNET monthly bootcamp attrition report should contain—what information would be most valuable to decision-makers. We recommend revising the CNET monthly bootcamp attrition report, as detailed in this document.

- More than a third of the recruits at bootcamp report preservice smoking. These recruits have bootcamp attrition rates that are almost double those for nonsmokers. To help the Navy reduce bootcamp attrition and to help the nation understand youth smoking behavior, we recommend that the Navy try to obtain outside funding to support smoking-cessation initiatives at bootcamp, as well as followup programs.

- To meet accession goals, Navy Recruiting Command recently expanded its market to include proportionately more recruits at higher risk of attrition. Some of these recruits score low in verbal test categories. Our analyses of the Fundamental Applied Skills Training (FAST) program at bootcamp sug-

gested that the program was quite effective in reducing bootcamp attrition. If the FAST program cannot enroll the number of recruits eligible on the basis of test scores, we recommend that the Navy consider expanding the FAST program to accommodate all those eligible.

- Although we found only slightly higher than average bootcamp attrition rates for recruits with drug waivers, we found two categories of waivered recruits with high attrition rates: those with dependency waivers and those who had previously attrited from the delayed entry program or from bootcamp (previous disqualifications). In response to our recommendations earlier in the study, the Commander of Navy Recruiting Command (CNRC) is investigating dependency waivers and has moved the waiver authority for previous disqualifications to the CNRC level.

- Some sailors who fail an A-school course as an academic course failure are allowed to continue schooling in a different A-school. We found virtually no further A-school attrition for these sailors who were subsequently rated. Our findings support previous CNA analyses. We understand that initiatives are under way to increase the number of sailors allowed to continue in A-school in a different area after an initial course failure. We strongly support these initiatives to provide a second chance at school.

- Sailors with nonacademic course failures who are sent to the fleet as general detail recruits (Gendets) have high fleet attrition. We recommend more careful screening of these sailors before sending them to the fleet.

- Drug use in society at large appears to be on the rise, and our analyses of attrition from the fleet showed increasing percentages of separations because of drug use. Currently, A-schools test all students upon arrival and randomly test throughout the school period. We believe that the Navy should consider uniformly testing all sailors near the completion of A-school, before they go to the fleet.

Bootcamp analyses

Bootcamp attrition and recruit characteristics: Cohort analyses

Bootcamp attrition rates: Historical predictors and recent patterns

Most analyses of the relationships among recruit characteristics and successful adaptation to Navy life [1, 2, 3, 4] focus on low attrition rates. The most important characteristics for successful outcomes are the following:

- Intelligence and educational credentials (high school diploma graduate or Tier I recruit[2])
  - — A-cell (graduates and top half of Armed Forces Qualification Test (AFQT) distribution)
- Entrance through the delayed entry program (DEP).

Representing about two-thirds of Navy accessions, A-cell recruits have historically been more successful in the Navy than have recruits of

2. DOD classifies recruits into three tiers. The Navy refers to recruits in the top tier, Tier I, as "grads." Primarily composed of high school diploma graduates, Tier I also includes recruits with associate degrees, college graduates, various other higher education credentials, and recruits with one semester of college and adult education backgrounds. The latter two groups do not have the low attrition rates that categorize other Tier I recruits. Instead, the attrition behavior of recruits with one semester of college and adult education is like that of Tier II recruits (mainly those with General Educational Testing (GED) degrees) or Tier III recruits (high school dropouts without further educational credentials). In this paper, we sometimes remove recruits with such educational backgrounds from the Tier I category (see each analysis).

other educational or test score categories. We also find strong and persistent attrition differences between recruits entering the Navy through the DEP and those who are shipped in the month that they sign their contracts. These differences occur because recruits who enter through the DEP have time to think about their decision to enter the Navy[3] and because they are more likely to be able to choose their own enlistment options.

Let's look now at cohort bootcamp attrition patterns for accession years FY 1985 through FY 1996.[4] As figure 1 shows, bootcamp attrition was very low in FY 1990 and FY 1991.[5] It started climbing in FY 1992, and then fell for recruits who began bootcamp in FY 1996. We calculated bootcamp attrition rates separately for male and female recruits and found that these attrition rates track each other closely, with some years slightly higher for women and some years slightly higher for men. In recent years, the bootcamp attrition rates have been somewhat higher for men.[6]

Bootcamp separations: Days in Navy vice days under instruction in bootcamp

Using data from the Navy Integrated Training Resources Administration System (NITRAS), we tabulated the "time to separate" from bootcamp—that is, the actual number of days from entry into the

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3. Attrition from the DEP is substantial because potential recruits change their minds about entering the Navy.

4. To allow for attrition from setbacks, we include all separations from the RTCs in the first 12 months of service. Recruit attrition for FY 1996 accessions is through March 1997.

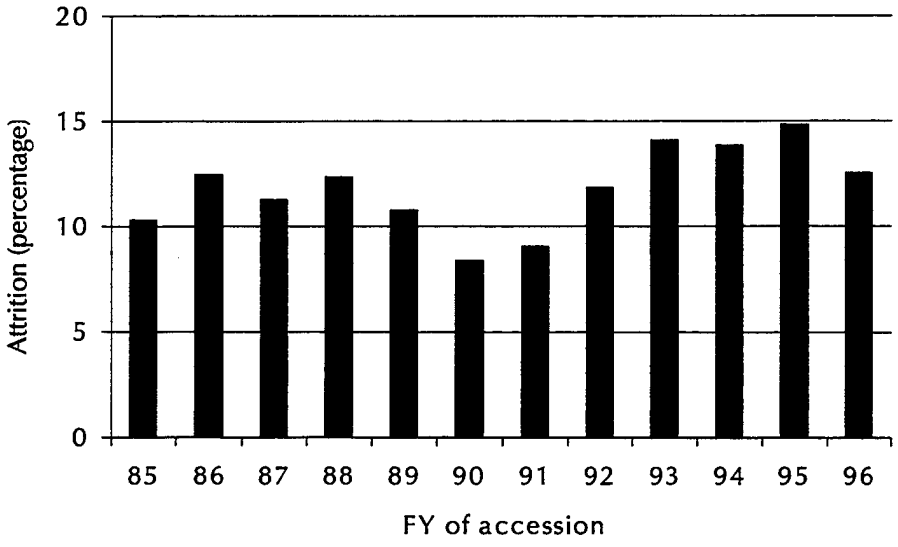
5. Admiral Boorda, Chief of Naval Personnel from 1988 to 1991, led an aggressive "war on attrition." Some argue that he effectively capped bootcamp attrition at 8 percent in 1990 and 1991. Despite considerable grumbling about these initiatives, constraining bootcamp attrition did not appear to increase subsequent attrition in the fleet. Because of all the downsizing initiatives that affected FY 1990–1991 accessions in their first terms of service, however, it is not possible to evaluate conclusively the impact of this capping of bootcamp attrition.

6. See [5] for a more complete discussion of this recent work.

Navy to separation from the Navy. For all bootcamp attrites in the FY 1993 through early FY 1997 period, the distribution was:

- 3 percent had 1 to 10 days in the Navy
- 37 percent had 11 to 20 days in the Navy
- 27 percent had 21 to 30 days in the Navy
- 23 percent had 31 to 60 days in the Navy
- 10 percent had more than 60 days in the Navy.

Figure 1. Bootcamp attrition: FY 1985 through FY 1996 accessions



Because it takes some time to process the paperwork for separations, we tabulated how many days these recruits who separated from the Navy were "under instruction" (a *much* shorter time period):

- Half of all bootcamp attrites in this 4-year period had less than 11 days under instruction.
- Almost three-quarters of the recruits who separated at bootcamp had less than 20 days under instruction.

It appears that most bootcamp separations are identified very early in bootcamp.[7] If we are identifying future failures correctly, this is good. There is always the danger, however, that we are prematurely separating recruits who, if given more time and attention, could become successful sailors. Unfortunately, there is no way to know how well (or how poorly) we are doing unless we run some kind of an experiment: for example, we could retain some recruits we intended to separate immediately and see how they do.

Waiver status

About one-third of recruits enter the Navy with some kind of enlistment waiver. Moral waivers, such as those for drugs and legal offenses, generate considerable discussion. Over the years, we have found that although recruits with moral waivers usually have somewhat higher attrition than average they are not among those we consider to be the very "high attrition risk" recruits.

We tabulated bootcamp attrition, by waiver status, for all bootcamp accessions from FY 1990 through FY 1996.[8] In this period, the bootcamp attrition rates for recruits who are waivered for a major misdemeanor or felony are higher, while the attrition rates for recruits waivered for minor misdemeanors are lower, than the attrition rates of recruits without *any* waivers. Recruits waivered for physical/medical problems had slightly higher attrition rates than those without any waivers. Figure 2 shows that recruits with waivers in the "other" category had the highest average bootcamp attrition of any of the waiver categories. Thus, our next step was to examine these other waiver categories.

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7. It is not clear in some of the NITRAS reports whether bootcamp separation information is measured as of the date the recruit is dropped from training or as of the date the recruit is actually separated from the Navy.

8. Unlike the Marine Corps, which has multiple positions for enlistment waivers on the accession files, the Navy has only one position for an enlistment waiver. We do not believe the Navy has a consistent method for classifying recruits requiring more than one waiver. We have been told that it is the most serious waiver (requiring the highest waiver authority), it is the first waiver, or it the last waiver. In a recent Marine Corps case widely reported in the press, Riddick Bowe required three enlistment waivers (weight, age, and number of dependents).

Figure 2. Bootcamp attrition by waiver status, all FY 1990-1996 accessions

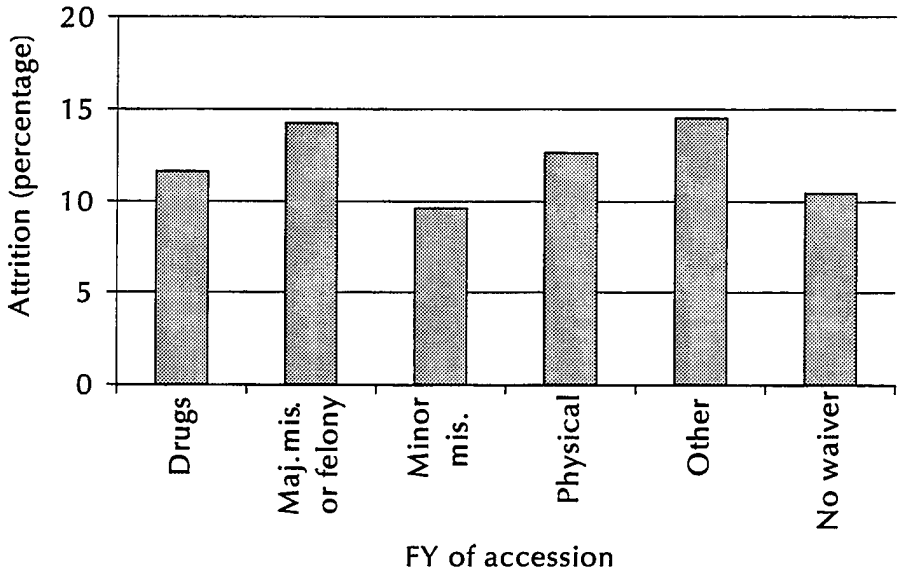
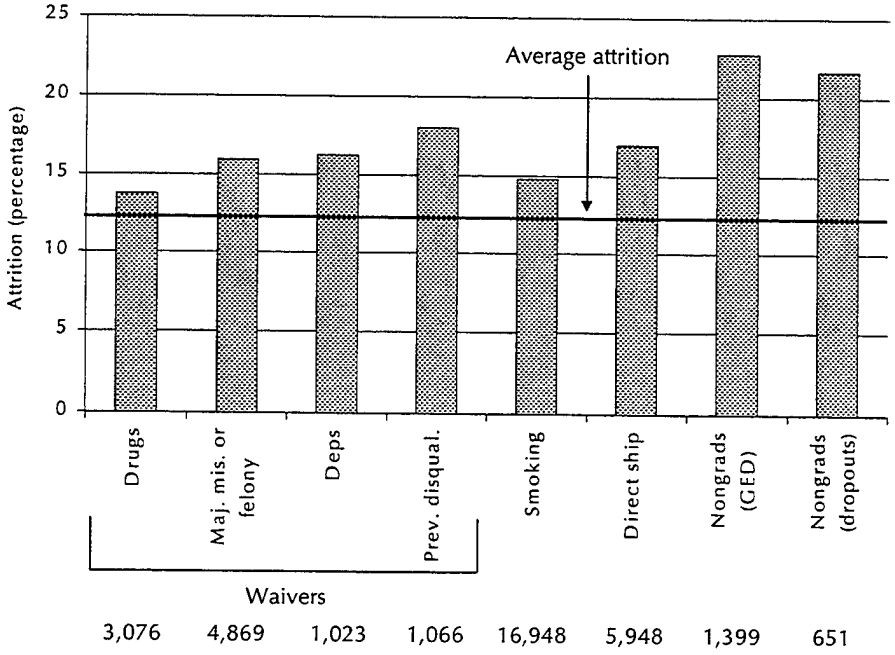


Figure 3 shows bootcamp attrition for FY 1996 recruits with higher than average attrition rates, by enlistment waiver status and other discriminators. Let's first examine the four waiver categories. In FY 1996, the Navy accessed slightly more than 44,000 recruits. Of these:

- 3,076 had drug waivers (and slightly higher bootcamp attrition than average)
- 4,869 had major misdemeanor or felony waivers (and bootcamp attrition rates about 4 percentage points above the average)
- 1,023 had dependency waivers (and bootcamp attrition rates about 4 percentage points above the average)
- 1,066 had waiver codes that stated "previous disqualification or separation," meaning they had previously attrited from either the Navy's or another service's DEP or bootcamp. These recruits had the highest bootcamp attrition rates of any of the waivered groups—nearly 18 percent.[9]

9. To better control accessions for this waiver category, CNRC has recently moved the approval level for this waiver up to the headquarters level.

Figure 3. Bootcamp attrition for FY 1996 accessions[a]



a. We show the number of recruits per category at the bottom of the graph.

Recruits who ship within the month they sign their contracts (i.e., direct ship recruits) usually have had higher bootcamp attrition rates than recruits waivered for felonies or major misdemeanors. The same finding holds for FY 1996 accessions where their attrition rates are 4.5 percentage points above average. Note that direct ship recruits have higher bootcamp attrition rates than any of the groups requiring moral waivers.

The highest bootcamp attrition rates are for nongraduates. Figure 3 separates nongrads into those with some credentials (mainly GEDs) and those with no credentials (high school dropouts). Both groups have bootcamp attrition of over 22 percent—about 10 percentage points above average. Bootcamp attrition in FY 1997 increased substantially in the first quarter; we believe a good portion of the increase in bootcamp attrition in the fall of 1996 resulted from nongrad accessions. Figure 3 also shows high bootcamp attrition rates for recruits who smoke. Since preservice smokers comprise the largest proportion of high bootcamp attrition risks, we now turn to a fuller

discussion of these findings on bootcamp attrition and preservice tobacco use.

New findings: Bootcamp attrition and preservice alcohol and tobacco use

Recruit Training Command, Great Lakes (RTC, GL) started a Student Health Inventory Profile (SHIP) in August 1995. The questionnaire, which all recruits complete during the first few days at bootcamp, automates the process of obtaining medical information.[10]

SHIP is a rich source of information on medical histories, behaviors and attitudes, and preservice tobacco and alcohol use.[11] We found the information on preservice alcohol and tobacco use particularly interesting because it appears to be the first instance of collecting and retaining these data. We know that the Marine Corps has no information on the preservice smoking history of recruits, and we have not seen any studies of preservice smoking by the Air Force or the Army.

As a historical note, the Navy banned smoking at bootcamp in 1990, primarily we believe for health reasons and as part of the "smoke-free" Navy campaign. The Marine Corps has banned smoking at bootcamp since at least the mid-1970s. As far as we have been able to determine, the Marine Corps did not ban smoking for health reasons. It forbade

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10. RTC, GL scans in the medical information to produce medical forms for each recruit.

11. Part of the study tasking was to develop an instrument that could be used to assess recruit quality at the onset of bootcamp. We experimented initially with using the behavioral/attitudinal responses in SHIP to create an index to assess recruit quality on psychological grounds. While we were able to correlate SHIP responses to subsequent bootcamp attrition, we were not convinced that we identified a stable relationship. Moreover, because the questions are so personal, the answers are essentially nonverifiable. Thus, we developed a quality index that incorporated educational background, DEP participation, and AFQT scores to gauge recruit quality at the onset of bootcamp. These latter measures of recruit quality have a 20-year track record in predicting subsequent attrition. We will discuss this index later.

smoking at bootcamp for much the same reasons that it sometimes uses sleep deprivation—as a training/toughening tool. Since the Marine Corps has never collected information on the preservice smoking behavior of recruits, it does not know if the bootcamp attrition rates for smokers are higher than those for nonsmokers. Neither the Army nor the Air Force allows smoking at bootcamp. The Coast Guard currently permits smoking at bootcamp but is considering banning it.

We analyzed over 65,000 surveys for recruits accessed from August 1995 through December 1996 and found the following:

- 37 percent of recruits report preservice tobacco use[12]
  - — 31 percent smoke
  - — Another 3 percent smoke and chew
  - — 3 percent chew only
- Of those who smoke, one in eight smokes two or more packs per day.

It is interesting to compare these percentages with the overall population. The Center for Disease Control's 1995 Youth Risk Behavior Survey shows that past-month smoking in 1997 among high school students (grades 9-12) was 36 percent. This percentage is on the increase compared to 1991 when 27 percent reported smoking in the past month.[13]

Among the civilian population, we see some fairly sharp differences in smoking behavior by gender, race, and ethnicity. Most of these differences are also evident among Navy recruits, except the Navy shows even sharper differences between whites and those of other race/

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12. Navy Recruiting Command has reported that data from the 1997 Recruit Survey show that almost 90 percent of the smokers planned to stop smoking to prepare for bootcamp. (See [6].)

13. Both *The New York Times* (page A-20) and *The Washington Post* (page A-2) reported these findings on 3 April 1998.

ethnic backgrounds. Comparing the most recent Youth Risk Behavior survey with Navy recruits in FY 1996, we see:

- 40 percent of male accessions smoked compared with 37 percent of male high school students. Smoking differences between Navy accessions and high school students (student percentages shown in parentheses) were:
  - 45 percent (40 percent) for white males
  - 29 percent (28 percent) for black males
  - 34 percent (35 percent) for Hispanic males
  - 39 percent for Asian/Pacific Islanders (civilian numbers are unavailable).
- 35 percent of female accessions and 35 percent of female high school students smoked. Smoking differences between Navy accessions and high school students (student percentages shown in parentheses) were:
  - 46 percent (40 percent) for white females
  - 14 percent (17 percent) for black females
  - 28 percent (33 percent) for Hispanic females
  - 29 percent for Asian/Pacific Islanders (civilian numbers are unavailable).

For Navy recruits, we found a concentration of heavy smokers among those who started smoking when they were very young. Of those who started smoking by age 12, one in three smokes two or more packs per day.[14] Figure 4 shows the age at which recruits started smoking.[15]

The bootcamp attrition results, by prebootcamp smoking and nonsmoking behavior, are very sharply delimited. Bootcamp attrition

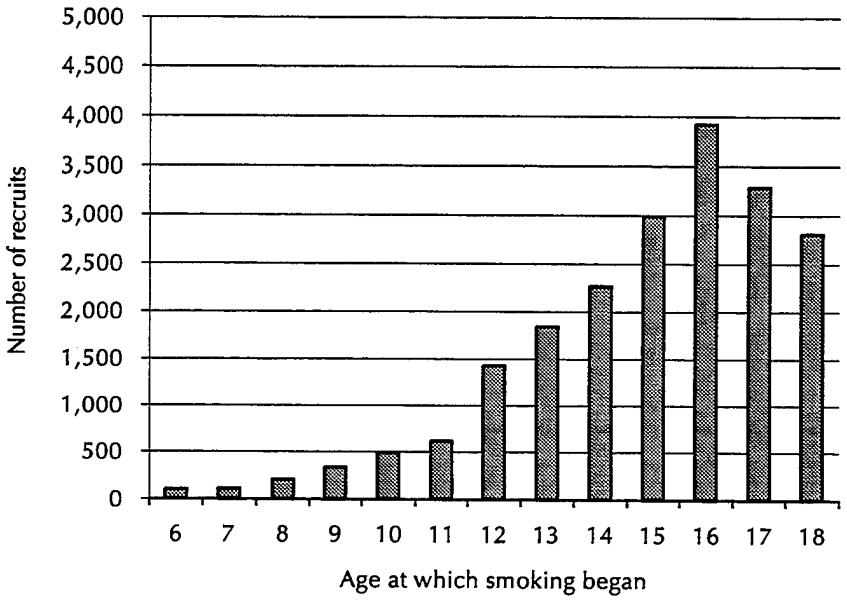
14. Slightly over 8 percent of the smokers started smoking before age 12.

15. We omitted the responses for those who reported they began smoking at 19 years or older (about 13 percent of the smokers) because of truncation problems.

rates averaged 12.5 percent over the period. By preservice smoking behavior, the attrition rates were:

- 14.8 percent for smokers
- 8.6 percent for nonsmokers.

Figure 4. Age at which recruits started smoking



Although many other indicators sharply delineate attrition behavior, most of the high-attrition results are for relatively small categories of recruits (nongrads, direct ships, very low AFQT scorers). We are not aware of any results that create such a sharp difference between large categories of recruits: the 34 percent who were preservice smokers and the 66 percent who were not.[16]

The bootcamp attrition results for those who chewed rather than smoked tobacco before bootcamp are not as sharply delimited.

16. Multivariate (regression) analyses support these bivariate results.

Attrition was 12.6 percent for those who chewed and 10.7 percent for those who did not. This compares with average attrition rates of 12.5 percent.

Bootcamp attrition rates show significant variation by the number of packs of cigarettes per day that the recruit reported smoking before bootcamp:

- For recruits who reported smoking two packs a day (12 percent of recruits), the bootcamp attrition rate was 23 percent.
- For recruits who reported smoking three or more packs per day (1 percent of recruits), the bootcamp attrition rate was 28 percent.

If the Navy could recruit its accessions entirely from the nonsmoking population and if the current attrition behavior continued, about 1,500 more recruits would have graduated from bootcamp in the 15-month period. Because it is not realistic to expect recruiters to find all nonsmokers (37 percent of recruits reported preservice tobacco use), the question is, what to do? Potentially this is a "win-win" situation, helping young men and women to lead tobacco-free lives and also helping the Navy to reduce bootcamp attrition.[17]

We also analyzed preservice alcohol use. In contrast to the number of recruits who use tobacco, only a small proportion of recruits report that they drink weekly (7 percent) or daily (1 percent). The bootcamp attrition rates by frequency of preservice alcohol use were as follows:

- 8.4 percent for those who reported never using alcohol
- 11.2 percent for those who used alcohol occasionally
- 16.7 percent for those who used alcohol weekly
- 28.8 percent for those who used alcohol daily.

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17. We are formulating some recommendations to involve the "national campaign to reduce youth smoking" with recruiting and bootcamp initiatives.

Because there are few weekly or daily drinkers, at least relative to the number of smokers, the impact on attrition is considerably less than that for smokers.

Special bootcamp programs: FAST and PASS

At an in-progress study review, CNET asked for an analysis of two bootcamp programs: Fundamental Applied Skills Training (FAST) and Personal Applied Skills Streaming (PASS). FAST started in the early 1980s. It is designed to give recruits with low reading comprehension and/or language skills a better chance of developing the skills necessary to complete bootcamp. Selections are made on the basis of verbal scores (VE) on the Armed Services Vocational Aptitude Battery (ASVAB) test. PASS is a much newer program, initiated in May 1997, and is designed to improve interpersonal skills.

FAST

Using NITRAS data, we extracted all accessions who participated in FAST from FY 1993 through FY 1996.[18] The FAST program has two literacy skills courses: one 4-week course for recruits for whom English is a second language and one 3-week course for other recruits requiring remediation. Between 3 and 4 percent of recruits are enrolled in these courses at bootcamp. About 1 percent of recruits also take a 1-week study skills course. Our analyses did not distinguish among the different courses.

It is our understanding that all recruits with verbal (VE) scores of 42 and below[19] take the FAST curriculum. As classroom space permits, additional recruits with slightly higher VE scores are admitted to the class.

Other analyses for this study identified quality accession groups, defined by AFQT scores, educational background, and entry mode

18. We used the following course data processing codes (CDPs) for FAST: 6627 and 3023 (study skills), 601L (literacy skills), and 6624 and 301W (verbal skills). These courses are all given at Great Lakes.

19. AFQT scores and VE scores are highly correlated.

(delayed entry program (DEP) or direct ship). The majority of the FAST participants are in what we categorize as the third quality group, recruits with AFQT scores in the 50th and lower percentiles, with Tier I educational backgrounds (commonly referred to as "grads"),[20] and who entered the Navy from the DEP. Thus, our primary analyses will be of the impact of FAST participation on recruits in quality group 3.

Let us summarize our overall findings before providing more detail on the analyses.

- FAST program participation reduces attrition, both at bootcamp and after bootcamp. Earlier analyses also showed lower attrition rates for FAST program participants [7].
- Because some have argued that the impact of the FAST program might result from a longer bootcamp experience, we looked at the post-bootcamp experience of other sailors who had taken a long time to complete bootcamp but who had not participated in FAST. We find no evidence from their subsequent attrition behavior that these sailors benefited from a longer time in bootcamp.
- The race/ethnic mix of the participants in FAST accounts for about half of the attrition impact of FAST. There are substantial differences in attrition rates by race/ethnic background for recruits whose AFQT scores are in the 50th and lower percentiles. FAST participants are disproportionately drawn from these generally lower attrition race/ethnic groups.
- After accounting for differences in the background characteristics of FAST and non-FAST participants, however, we still find a substantial attrition-reduction impact for FAST program participation. Future work needs to quantify this more precisely and to examine cost/benefits of program expansion.

20. The "grads" category includes all educational categories in Tier I except those with credentials of adult education and one semester of college. These categories were excluded because their Navy attrition rates are similar to those of the nongraduates in Tier II and Tier III.

Let us take each of these points in turn.

Lower attrition for FAST participants

Attrition rates (bootcamp and post-bootcamp) for FAST participants were lower than the attrition rates for all recruits in each of the years we analyzed.[21] Because the FAST program involves remediation, this is a surprising finding. For example, the 30-month attrition rate for FY 1994 accessions was 27 percent for FAST participants and 33 percent for recruits who did not participate in the FAST remediation programs. We spent considerable time trying to disentangle the "program effect" of FAST participation from other factors that might be associated with lower attrition for FAST participants.

Longer time in bootcamp for FAST participants?

Some have argued that the impact of the FAST program is simply a longer-time-in-bootcamp effect. In particular, the argument was that FAST program participation meant more time in bootcamp and that "extra time" allowed recruits to better prepare for the Navy after bootcamp.

We analyzed non-FAST bootcamp graduates with long completion times. These sailors are mainly those who had physical or medical problems that delayed their bootcamp graduation. For these recruits, there is no evidence that a longer time in bootcamp contributed to better preparation for the fleet because their subsequent bootcamp attrition rates were either slightly higher or average. However, this is a less than ideal comparison group.

A CNET analyst suggested the idea that FAST participants "got ahead" of the rest of the recruits because they learned military procedures while participating in the FAST program. Thus, when they formally began regular bootcamp training, they knew how to make their

21. For FY 1996 accessions, we could examine only 12-month attrition rates. In the earlier years, we could study attrition over a longer period. The only exception to the overall finding of lower attrition was that FY 1993 FAST participants had bootcamp attrition rates 1 percentage point higher than all recruits; by 24 months of service, however, their overall attrition was 1 percentage point lower than that for all recruits.

beds correctly, understood military formations and discipline, knew how to relate to their trainers, and so on. Because they "knew what they were doing" when they began training, their trainers found them easier to deal with. This is an interesting, albeit somewhat untestable, idea. If correct, it suggests that lengthening bootcamp for everyone would not work because everyone cannot be "ahead of the pack."

Differences in characteristics of FAST participants and nonparticipants that help to account for attrition differences?

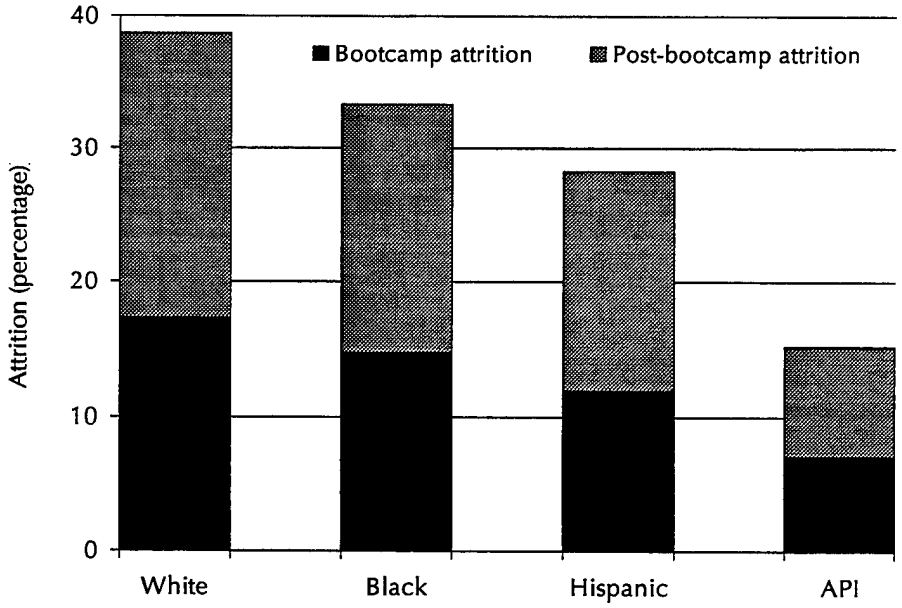
Recruits who participate in the FAST program in bootcamp appear to have lower attrition than other recruits, even though they are generally believed to be of a lower average quality based on their test scores. Before attributing the lower attrition rates to the effects of the FAST program per se, we wanted to be certain that no significant differences between FAST participants and other recruits could account for the attrition differences. Thus, we investigated:

- School guarantee vs. general detail (Gendet) status
- Race/ethnic backgrounds.

We did separate analyses for Gendet recruits (FAST participants and nonparticipants) and school guarantee recruits (FAST participants and nonparticipants). In both enlistment programs, FAST participants had lower bootcamp and post-bootcamp attrition rates than did nonparticipants. These are strong findings for the "program effect" of the FAST program.

Our analysis of the race/ethnic backgrounds is a little more complex. Overall, the attrition rates of black and white recruits are similar, while the attrition rates of Hispanic and Asian/Pacific Islanders (APIs) are substantially below the average rate. For example, for FY 1994 accessions with contracts of 3 years or longer, the 30-month attrition rates were 34 percent for whites, 33 percent for blacks, 29 percent for Hispanics, and 17 percent for APIs. Moreover, within the quality cell from which most FAST participants are drawn, the differences in attrition by race/ethnic status are even larger (see figure 5). Thirty-month attrition rates for the quality cell were 39 percent for whites, 33 percent for blacks, 28 percent for Hispanics, and 15 percent for APIs.

Figure 5. 30-month attrition rates: FY 1994 recruits in quality cell 3[a]



a. Quality cell 3 is recruits with AFQT scores below 50, grads, and participation in the DEP. Includes all quality cell 3 recruits with obligations of 3 or more years.

FAST participants are drawn disproportionately from Hispanic and API recruits. Figure 6 contrasts the race/ethnic background of all recruits with the race/ethnic background of those who participate in the FAST program. As is clear from figure 6, minorities make up the major share of the FAST program.[22]

Thus, part of the reason that FAST program participants have lower attrition rates than nonparticipants is because of the generally lower attrition rates of Hispanic and API recruits, who are heavily represented in the program. Figure 7 illustrates the different attrition rates by FAST participation status for recruits in the quality cell from which most FAST participants are drawn.[23]

22. The FY 1994 race/ethnic distribution of FAST participants shown in figure 6 also reflects the distributions in other years.

23. Quality cell 3 includes recruits with AFQT scores below 50, grads, and participation in the DEP. The 30-month attrition calculation is for recruits in this quality cell with enlistment contracts of 3 or more years.

Figure 6. FY 1994 recruits: Race/ethnic background

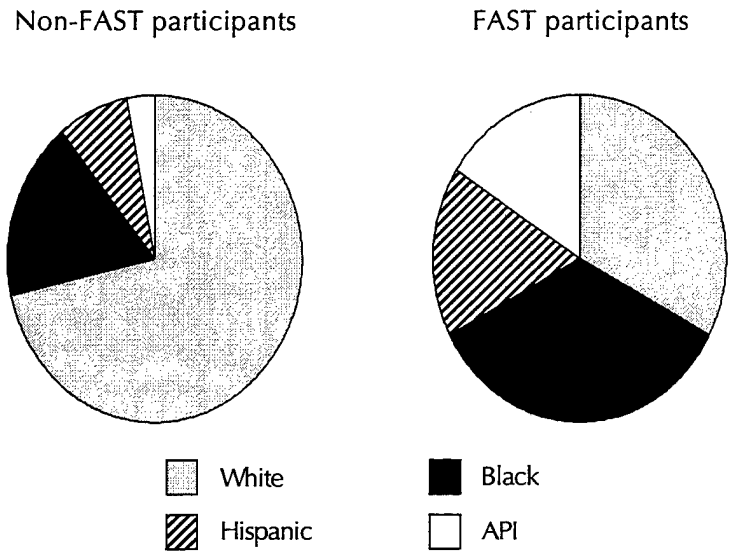
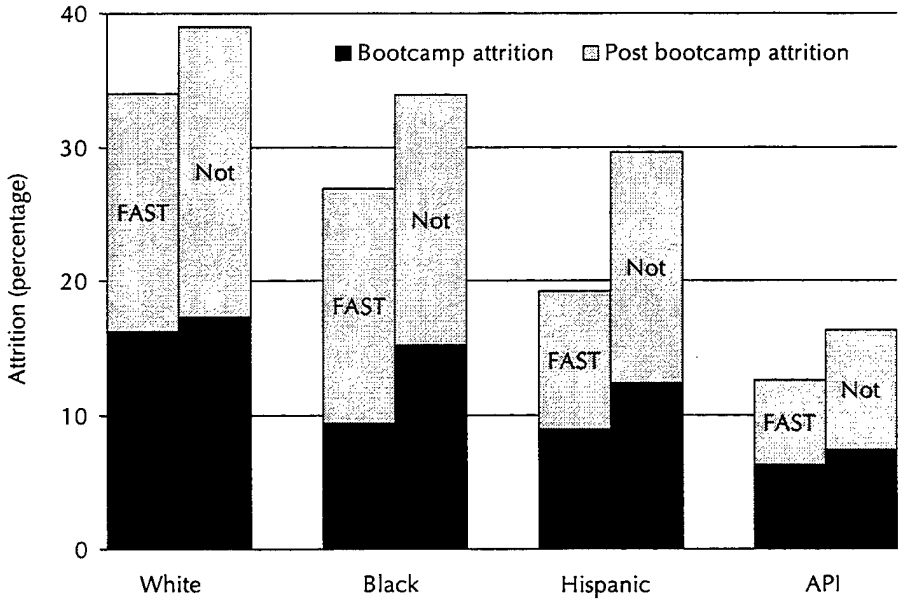


Figure 7. FY 1994 accessions in quality cell 3: 30-month attrition rates



For FY 1994 accessions, we partitioned the overall reduction in attrition into two categories:

- Characteristics of participants (race/ethnic backgrounds)
- FAST program participation.

We attribute slightly over half of the attrition reduction to a real program effect (i.e., we can't attribute the attrition differences to any other explanation). The other half of the attrition reduction is because of the lower attrition propensities of the program participants relative to nonparticipants. This is the true program effect.

PASS

The Personal Applied Skills Streaming program (PASS) began in May 1997. By the end of December 1997, 368 sailors had taken the 1-week PASS course, although it was suspended during most of September, October, and November. We have been told that this was because of the exceptionally large demands on the system due to the high number of accessions in these months. Course attendance built up over the months. In August, 102 accessions were taking the course—a number that represents slightly under 2 percent of that month's accessions. Because the program has been under way for such a short time, we have only enough information for a preliminary examination.

The race/ethnic composition of the PASS participants is very similar to the recruit population for Hispanics and APIs, but with a higher percentage of blacks and a lower percentage of whites. Males were overrepresented.

We can follow only 287 PASS enrollees for at least 3 months.[24] Of these, 26 percent attrited from the Navy at bootcamp:

- 35 for entry level misconduct
- 22 for erroneous entry
- 14 for personality disorder
- 5 for miscellaneous other reasons.

24. Our data go through December 1997.

Did the completion of the PASS course have an impact? Of the 22 sailors who failed PASS, 68 percent attrited from the Navy at bootcamp. The bootcamp attrition rate for recruits who successfully completed the PASS course was 23 percent. Even this latter number is quite high, given the average bootcamp attrition rate in the period of 12.5 percent.

Can we tell if the course is successful? If the alternative to taking the PASS course was dismissal from bootcamp, the course was useful for 77 percent of those who passed (71 percent of the attendees), insofar as they made it through the first 3 months of naval service. This is not an overwhelming endorsement, however, and we look forward to data over a longer period for evaluation of the benefits of PASS program participation.

Bootcamp separation reasons

Overview

Over the years, CNA analysts have argued that analyses of separation reason codes are generally less useful than is commonly believed. Our argument has two main parts. First, the codes have no hierarchy, leaving considerable discretion when there are multiple problems (for example, a recruit with a poor attitude who complains of back pain and has a drug use problem). Second, our past work has questioned the validity of the individual separation reasons because of the wide, year-to-year swings in the numbers of separations under specific codes. Against this backdrop, let's turn to our analyses of bootcamp attrition reasons.

Comparing separation reasons: Training data and personnel data

At least two different coding schemes describe the reasons for Navy recruit separations at bootcamp:[25]

25. We understand that there is also a coding scheme for bootcamp separations in the Navy Recruiting Command's PRIDE system, but we have not investigated that.

- Codes describing the separation reason from the training command's NITRAS II system, called personal event codes.[26] At bootcamp, training attrition is synonymous with attrition from the Navy.
- Codes describing the separation reason from the personnel data (DOD loss codes).

CNET uses the attrition reasons from NITRAS to generate monthly and fiscal year attrition reports. Use of NITRAS information takes place mainly within the training command. Thus, in the periodic examinations by the Bureau of Naval Personnel of attrition trends and patterns, bootcamp attrition analyses have not used the information in NITRAS. Instead, separation reasons for bootcamp attrition come from the personnel data, which use an entirely different coding scheme.

We are not aware of any analyses of the consistency of separation code reasons assigned in the two different systems to the individual recruits who are separated at bootcamp. Thus, this memorandum analyzes bootcamp separation reasons, under the two systems, for recruits who entered the Navy in FY 1996.

Overall findings for separation code consistency

One would expect to find a consistent translation or mapping among the two coding schemes. This is not the case. The two coding schemes are independent, and the information for each recruit separated clearly indicates there is individual data entry for each system.

Table 1 groups the separation reasons under each coding scheme into categories.[27]

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26. These codes replace the old NITRAS Student Action Codes (SACs). They describe the students' status (beginning the course, awaiting instruction, passing the course, attriting from the course, etc.). Recruit Training Command, Great Lakes, is the only training command that is permitted to separate personnel from the Navy; other training commands can attrite students from training courses, but they can only recommend separation from the Navy.

27. Appendix A shows which separation codes are in each category in the table.

Table 1. Categories of separation reasons by coding scheme

DOD category (Navy personnel data)	NITRAS category (training data)												
	Medical/ physical	Drug/ alcohol abuse	Fraudulent enlistment— drug/alcohol abuse	Fraudulent enlistment— not related to drugs or alcohol	MOT (erroneous enlistment)	NAV/AFMET (erroneous enlistment)	Personality disorder/ inability to perform satisfactorily	Breach of contract	Legal	Homo- sexuality	Other	Total	Percentage
Medical/physical	1,324	4	13	1	5	5	11	0	3	1	1	1,368	24.7
Erroneous entry—drug or alcohol abuse	23	370	1,350	4	214	10	16	1	2	1	0	1,991	36.0
Drug/alcohol abuse	0	0	2	0	0	0	0	0	4	1	1	8	0.1
Fraudulent enlistment— drug/alcohol abuse	0	0	4	0	0	0	0	0	0	0	0	4	0.1
Fraudulent enlistment— not related to drugs or alcohol	0	0	2	18	4	0	3	0	4	0	4	35	0.6
Erroneous entry—not related to drugs or alcohol	14	0	6	4	204	309	10	0	2	0	10	559	10.1
Personality disorder/ inability to perform satisfactorily	451	3	13	0	14	49	789	0	4	0	0	1,323	23.9
Breach of contract	3	0	0	0	2	1	0	48	0	0	4	58	1.0
Legal	1	0	4	0	0	0	5	0	72	1	0	83	1.5
Homosexuality	0	0	0	0	0	0	0	0	2	46	0	48	0.9
Other	1	0	2	47	0	0	1	2	2	0	4	59	1.1
Total	1,817	377	1,396	74	443	374	835	51	95	50	24	5,536	100.0
Percentage	32.8	6.8	25.2	1.3	8.0	6.8	15.1	0.9	1.7	0.9	0.4	100.0	

A quick examination of the table shows that the two coding schemes categorize the separations differently. In particular, broad characterizations of the separation reasons for these 5,536 recruits would provide different separation profiles.

- An analysis of the NITRAS separation reasons shows that 32.8 percent of the separations were for medical or physical reasons. An examination of the DOD codes for these *same* boot-camp separations shows that medical or physical reasons accounted for only 24.7 percent of the separations.
- NITRAS data show that 15.1 percent of the separations were for personality disorder or the inability to perform satisfactorily; Navy personnel data show that these reasons account for 23.9 percent of the separations.
- NITRAS data show that fraudulent enlistments (drug and alcohol abuse) account for 25.3 percent of the separations, while this reason accounts for less than 1 percent of the separations in the DOD coding scheme. Moreover, virtually all the fraudulent enlistments for drug and alcohol abuse in the NITRAS system are coded as erroneous enlistments (drug and alcohol abuse) in the Navy personnel system. Given the distinction that has usually been made between fraudulent and erroneous enlistment, this coding difference appears to us to be a serious one.
- Finally, although only a small number of separations were for reasons of homosexuality, these separations receive attention from various organizations outside the Navy and from the press. The DOD coding scheme reports that 48 of the 5,536 separations were for reasons of homosexuality, while the NITRAS scheme reports 50 such separations. Moreover, only 46 of these separations were coded as separations for reasons of homosexuality by both NITRAS and Navy personnel data.

Real differences in characterizations can explain some of the discrepancies. For example, the NITRAS separation reason coding scheme identifies two points (the moment of truth (MOT) interview and the biographical evaluation and screening of troops (BEST) at which revelations are made that lead to the separation decision. These reason

codes, however, do not provide specific information on the nature of the revelation. Because these categories are not used in the DOD codes, the two systems will never correspond. These differences, however, account for only a small portion of the inconsistencies among the two systems.[28]

Our overall finding is that the coding in the two systems is not sufficiently consistent to ensure that an analysis of one system's separation reasons would correspond to that of the other system's separation reasons.

Recommendations for separation codes

Despite our lack of confidence in the accuracy of separation reasons, considerable time (and money) goes into coding separation reasons. And, once separation reasons are coded into a database, policymakers ask for analyses of the separation reasons. In light of that, we believe it is important that the characterizations of bootcamp losses in Navy training and personnel data be consistent. There should be a straightforward translation of the losses from one scheme into another. Moreover, the words that describe the characteristics of the separation should be relatively consistent. It is unacceptable to have one system characterize separations as fraudulent enlistments, while the other characterizes them as erroneous. It is also a waste of Navy resources to have the same set of information entered twice. There should be a table-to-table translation of separation code reasons.[29]

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28. BEST used to be called Navy/Air Force Medical Evaluation Test (NAV/AFMET). CNET is working on a NITRAS report to identify specific reasons for separations that occurred as as result of MOT or BEST.

29. Appendix A shows how the DOD and NITRAS reasons were coded into the broad separation reason categories in table 1. For more specific information on how these 5,536 bootcamp separations were coded in the two systems, see the appendix tables in [8]. If an attempt is to be made to provide a consistent translation from one coding scheme to the other, these tables should provide valuable input on how to construct such a translation.

Real-time monitoring of bootcamp attrition and accession quality

Monthly and year-to-date attrition rates using aggregate data

Navy attrition rates are calculated in two basic ways. Work by CNA, RAND, and Navy Recruiting Command analysts has generally used a cohort method.[30] In cohort analyses, a group is selected and each person in that group is tracked individually. Cohort attrition analyses by accession year groups are most common. For example, analysts compare the attrition behavior of recruits who began bootcamp in FY 1995 with the attrition behavior of recruits who began bootcamp in FY 1996. Sometimes the analyses are for a short time period, such as attrition rates in the first 10 weeks or the first 3 months of service. Other times, such as for the work in this paper, we try to capture all the bootcamp attrition (including the attrition of recruits who had been set back in the training process). Here we look at all recruits who entered the Navy in a particular time period and figure out what proportion of them separated from the Navy at bootcamp.

The biggest advantage of cohort attrition analysis is *unambiguous calculations of attrition rates*:

- Because everyone in the group of interest is tracked individually, the calculated attrition rate is unambiguously the attrition rate for the group.
- Moreover, it is the only method that can analyze the relationships among background characteristics and subsequent Navy attrition behavior.

30. A cohort is a group that experienced the same event. People speak of birth cohorts (those born in a particular year). CNA attrition analyses are usually accession cohorts (those recruits entering the Navy in the same month or same fiscal year).

The biggest disadvantages of cohort attrition analysis are:

- *The data demands.* Because every recruit is monitored individually, it is necessary to have complete files by SSN.
- *The time lag.* Because cohort analysis looks forward, computations cannot be completed until the time period of interest has passed.

The other widely used method for computing attrition rates is the one used by all training commands—the NITRAS/CNET method, abbreviated here as the CNET method. It is the current method of measuring course attrition in all Navy courses, including bootcamp. This method uses aggregate counts of events in the period (either a year or a month) to calculate attrition. The formula is:

Attrition rate = Attrites / Student flow,

where

Student flow = (Enrollees + Attrites + Grads + Disenrollees)/2.

Bootcamp has no disenrollees (everyone either attrites or graduates), so the last term is zero for bootcamp attrition. For bootcamp attrition in FY 1996, the numerator is the aggregate number of bootcamp attrites in FY 1996. The denominator is one-half of the sum of all recruits who started bootcamp in FY 1996 (enrollees), all bootcamp attrites in FY 1996, and all bootcamp graduates in FY 1996.[31] Unlike the cohort method that fixes on a particular group to watch, the CNET method tracks the events that happened in the period.

Before discussing the advantages and disadvantages of the CNET method, let us address some of the confusion that surrounds comparisons of the two calculations. Probably the most important point is that these calculations are different: One should not expect them to

31. The recruits who attrite, disenroll, or graduate in the period do not have to be the same group as the enrollees in the period. In this example, they could have started bootcamp in FY 1995. It is one-half of the sum of these categories because there is double counting (inputs or enrollees are counted as well as outputs (attrites or graduates)).

obtain the same answer for the attrition rate.[32] For example, December 1997 cohort attrition rates capture bootcamp attrition for recruits who began bootcamp that month. It is necessary to wait until we know the outcome for these recruits (attrition or graduation) before making the December 1997 calculations. Unlike the cohort method, the CNET method does not monitor a fixed group of recruits. It measures the activities in any one particular month—the accessions, graduations, and attrites in that month. All of the bootcamp graduates in December 1997, and most of the bootcamp attrites in December 1997, had entered bootcamp in previous months.

The biggest advantages of the CNET method are:

- It can be calculated from aggregate counts.
- It can be calculated in a timely fashion because it only uses information through the period to calculate the attrition rate.

The biggest disadvantages of the CNET method are:

- It can show an increase, or decrease, in the attrition rate when the underlying cohort attrition rate is constant.
- Or, it can remain unchanged when the cohort attrition rate is changing. This is particularly true for monthly attrition rate calculations when the number of enrollees varies significantly from month to month.

Because the CNET calculation for monthly bootcamp attrition rates reflects the timing of accession flows and bootcamp graduates as well as variations in underlying attrition behavior, we have worked to develop a better method for calculating aggregate bootcamp attrition rates.

32. The calculations will produce the largest differences for monthly attrition rates. Over a period as long as a year, the differences are small.

Recommendation for new calculation methods for bootcamp attrition rates

Monthly calculations

The Navy developed the CNET attrition calculation years ago, as an attempt to standardize attrition calculations at all training facilities. As long as the inflows to the process (the enrollees per period) are relatively constant, the method measures attrition very well. Unfortunately, the bootcamp enrollees per month are not relatively constant. In FY 1996, they varied from about 2,600 for April to about 5,000 in June. In this situation, monthly attrition calculations will track both the flow of enrollees and their attrition behavior. We did a large number of simulations and found that, even if the underlying attrition behavior had been constant, monthly bootcamp attrition rates calculated by the CNET method would have varied considerably.[33]

We understand that the training community needs to be able to track attrition on a monthly basis using aggregate counts. We thought a lot about how to improve the bootcamp attrition calculation. Specifically, we wanted to see if we could identify a simple calculation that would be less affected by the seasonality in enrollee patterns. The key is making certain that the monthly count of attrited recruits is tied to the population at risk for attrition. We analyzed the time to attrite or graduate from bootcamp. We found that most attrites come from the previous month's accessions and most graduates come from recruits who began training two months earlier. Then we realized that the only reason that graduates were included in the *attrition* rate calculation was to try to account for seasonality, to smooth the data. Focusing only on attrition, we decided that an aggregate monthly bootcamp attrition rate should be calculated as follows:

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33. We used the accession numbers for FY 1996, assumed a 10-percent cohort attrition rate, and developed a spreadsheet model based on historical data for the timing of bootcamp attrition and recruit graduation. Then we calculated monthly attrition rates by the CNET methodology; these rates varied from 8 to 13 percent.

Monthly bootcamp attrition rate = (Number recruits attrited this month) / (Number recruits at risk for attrition this month).

To determine the number of recruits at risk for attrition in a particular month, we went back to our analyses of the timing of bootcamp attrition. This is the difference between the date the recruit arrived at bootcamp and the loss date. For FY 1993 through FY 1996, the timing of bootcamp attrition was as follows:

- 18 percent in the month of accession
- 72 percent in the month after accession
- 10 percent two or more months after accession.

We simplified this, identifying the number of recruits at risk for attrition as the sum of 25 percent of this month's accessions and 75 percent of last month's accessions. We like this formulation because it suggests a certain approximation that we believe is appropriate, as bootcamp loss patterns are not absolutely fixed. Unlike a cohort method that tracks every recruit and ensures that everyone in the attrition numerator will be in the denominator, an aggregate method cannot track individuals.

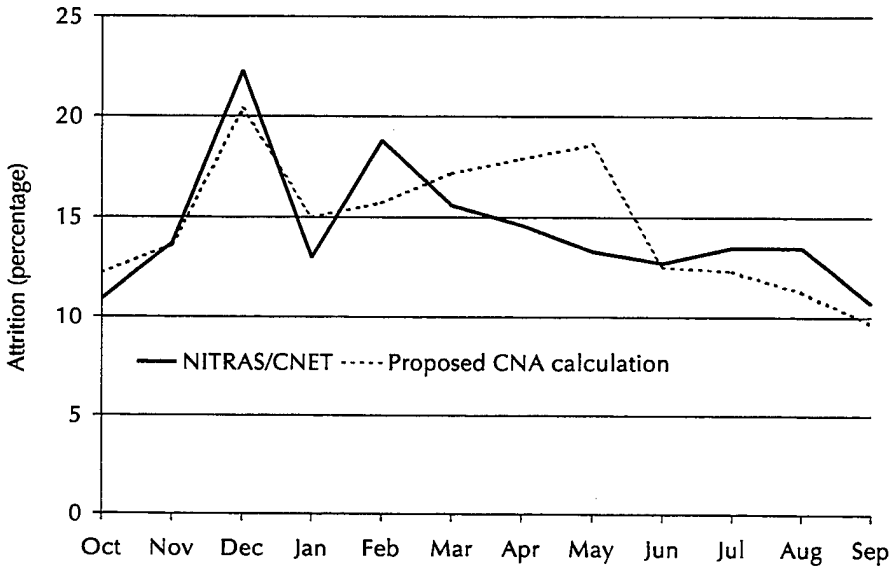
The goal is for this attrition calculation to be relatively independent of the varying accession flows. We believe that our formula does that and will track attrition patterns quite accurately.[34] Appendix B provides more information. We now examine how our aggregate monthly attrition calculation compares with the one currently used by CNET. Figure 8 shows the information for FY 1997.

In figure 8, the largest differences between the CNET calculation and our proposed calculation are in March through May, with the largest

34. We developed this calculation specifically for calculating recruit training attrition. It is not suitable for calculating attrition in other CNET classes. To use the method for other classes, one would need to analyze the timing of attrition for each class separately, as the denominator (the attrition-risk population for the month) is unique for each class. It should also be reviewed periodically for bootcamp to insure the timing of separations has not changed.

differences in May. We calculate a small attrition-risk population for May (.25 * 2,807 May accessions + .75 * 1,600 April accessions). The denominator of the CNET calculations, May student flow, is too large. It considerably overstates the "at attrition risk" population. Thus, the CNET attrition rate calculation for May is too low.

Figure 8. FY 1997 bootcamp attrition rates: CNET calculations compared with new method proposed by CNA



12-month moving average

Monthly attrition reports in FY 1998 use only a 12-month moving average to describe bootcamp attrition.[35] We do not believe a 12-month moving average by itself provides sufficient information to describe current bootcamp attrition patterns. Here are our reasons:

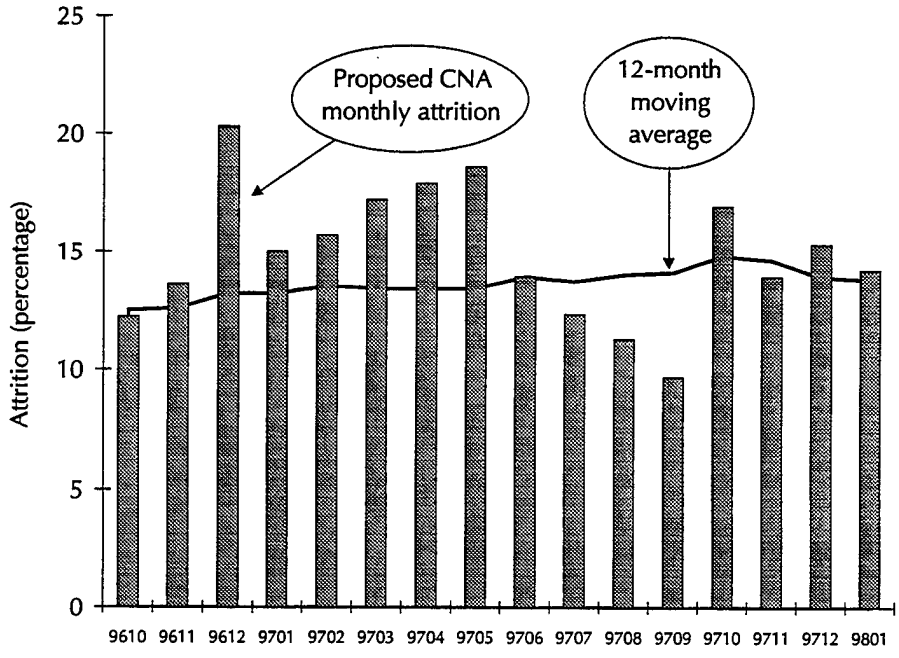
- It provides little information about what is happening in the current month.
  - — Events in the current month are overwhelmed by what has happened in the prior 11 months.

35. For the January report, see [9].

- It barely changes from month to month, even if attrition patterns are changing.
  - — Most of the information that is in one month's report will also be in the next month's report because only one month is dropped and one month is added to the calculations for the 12 months.
- In general, the measure goes up if this month's attrition rate is higher than the attrition rate of the month that is dropped. This point is important and, we believe, not well understood.

The 12-month moving average does tell you what the average attrition rate has been for the last 12 months. That is a useful calculation, but it needs other information to determine how current attrition rates compare with past attrition rates. Figure 9 shows the 12-month moving average and our proposed monthly attrition calculation for FY 1997 through January 1998.

Figure 9. Bootcamp attrition rates: Comparing a 12-month moving average attrition calculation (solid line) with CNA's proposed monthly calculation (stovepipes)

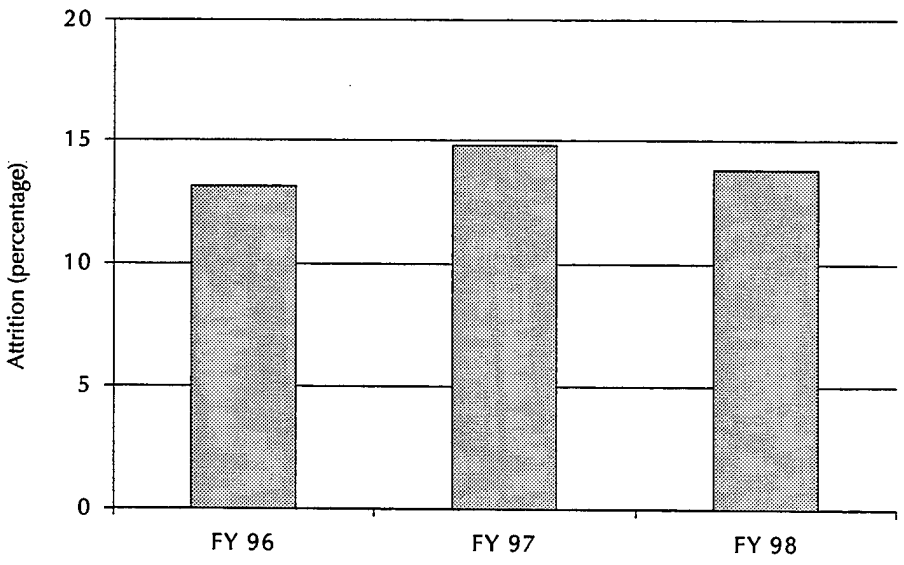


Had the 12-month moving average method been used at the beginning of FY 1997, officers reviewing the information would have missed the sharp increase in attrition in December 1996. Similarly, the moving average misses (or obscures) the low attrition in July through September 1997 and the sharp increase in attrition in October 1997.

Year-to-date comparisons

We believe that year-to-date (YTD) comparisons of this year to previous years are also useful summary statistics as to how bootcamp attrition compares with previous periods. For example, in figure 10 we show January year-to-date comparisons for bootcamp attrition for the last three years.

Figure 10. Bootcamp attrition rates: Year-to-date (through January 1998)



What do these calculations tell us? They tell us that January YTD bootcamp attrition levels rose in FY 1997 from FY 1996 levels. By FY 1998, they had fallen back close to FY 1996 levels. This is valuable information because it allows us to see if attrition is rising or falling relative to the same point in time in prior fiscal years. Because the comparisons

are over the same months, they are not affected by systematic differences in accession phasing.

Improving the monthly attrition report

We think the monthly bootcamp attrition report should include the following:

- Data for monthly attrition, graduations, accessions (enrollees), and student flow for each of the past 3 years
- Three attrition calculations for the last 13 months[36]
  - — The 12-month moving average attrition rate for each month (see figure 9)
  - — The NITRAS/CNET monthly attrition rate for each month (see figure 8)
  - — The accession-phased attrition rates that CNA proposed (see figure 8)
- One attrition calculation comparing this year with the previous two years
  - — Year-to-date attrition calculations (see figure 10).

We think the separation code reasons should be eliminated from the report, at least until these separation reasons are made consistent with DOD loss codes. Currently, these NITRAS separation reasons do not track with the separation reasons tracked in the personnel data.[37]

The most important aspects of bootcamp attrition are the overall rate and whether it is changing: Is it increasing or decreasing? To evaluate the overall rate and to determine whether it is changing, it is necessary to remove the effects of accession phasing from the calculations.

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36. One needs to be able to compare the current month with the same month one year ago. That is why we selected 13 months.

37. A panel of individuals who represent the appropriate commands should be appointed to work on resolving the consistency problems.

Both our proposed calculations and the YTD comparisons with previous years should do that quite well.

If it is determined that the bootcamp attrition rate is changing, the next questions should be:

- Has policy changed? Is there a new drug test?"
- "Has accession quality changed?"

The next section addresses that point, as well as our efforts to tabulate that information during the accession month.

After these questions have been investigated, it may be worthwhile to look at separation reasons, particularly looking for changes in the reasons. We are not generally optimistic, however, that an examination of separation reasons will be very revealing. We think that a more promising line of investigation might be an examination of any changes in the timing of attrition (where in the training cycle it is occurring). Here it is important to distinguish when recruits are dropped from training, rather than the actual date of their separation from the Navy.

Tracking accession quality

To monitor accession quality, we developed seven recruit quality cells based on the Navy's historical success rates with recruits with different characteristics. The first three categories are very large, representing about three-quarters of Navy accessions. The categories and their average bootcamp attrition rates in the FY 1994–1996 period were:

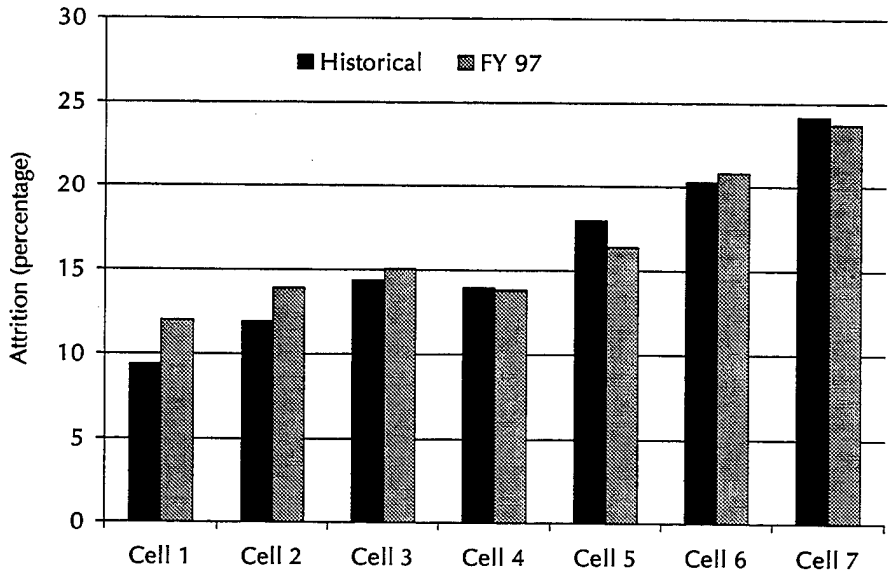
- Cat 1: AFQT category I-II (percentile 65-99), high school graduates, accessed through DEP
  - — About 33 percent of accessions
  - — Bootcamp attrition rate, 9.4 percent
- Cat 2: AFQT category IIIA (percentile 50-65), high school graduates, accessed through DEP
  - — About 18 percent of accessions
  - — Bootcamp attrition rate, 11.9 percent

- Cat 3: AFQT category IIIB (percentile 49 or below), high school graduates, accessed through DEP
  - About 25 percent of accessions
  - Bootcamp attrition rate, 14.4 percent
- Cat 4: AFQT category I-IIIA (percentile 50-99), high school graduates, direct ship
  - About 8 percent of accessions
  - Bootcamp attrition rate, 13.9 percent
- Cat 5: AFQT category IIIB (percentile 49 and below), high school graduates, direct ship
  - About 6 percent of accessions
  - Bootcamp attrition rate, 17.9 percent
- Cat 6: All AFQT categories, not high school graduates, accessed through DEP
  - About 8 percent of accessions
  - Bootcamp attrition rate, 20.3 percent
- Cat 7: All AFQT categories, not high school graduates, direct ship
  - About 2 percent of accessions
  - Bootcamp attrition rate, 24.1 percent.

First, we use these bootcamp attrition rates from FY 1994 to FY 1996 as baselines to evaluate current attrition trends. Figure 11 illustrates the baseline bootcamp attrition rates and the rates for FY 1997 accessions by quality cell.[38]

38. Throughout the rest of this report, we have defined bootcamp attrition as attrition from a bootcamp Unit Identification Code (UIC) within the first 12 months of service. For this work, which we hope eventually can be incorporated into real-time monthly attrition reports, we are defining bootcamp attrition as attrition from a bootcamp UIC within the first 3 months of service. Ignoring very lengthy bootcamp separations reduces the overall bootcamp attrition rate less than 1 percentage point. The impact is largest for quality cells 6 and 7, cells that appear to contain a larger proportion of these troublesome separations.

Figure 11. Bootcamp attrition rates: Historical baselines and FY 1997 actual rates



The overall baseline cohort attrition rate was 13.1 percent, but the bootcamp cohort attrition rate for FY 1997 accessions was 14.3 percent. It is worthwhile to ask how much of the FY 1997 attrition increase over the baseline years was the result of:

- Changes in accession quality (namely, larger proportions of cells with higher than average attrition)
- Changes in attrition rates within quality category cells.

We have done these calculations and can report that about 90 percent of the increase in attrition is because of changes in attrition rates within quality cells. Figure 11 shows fairly sharp attrition increases within the larger, higher quality cells. Curiously, attrition rates for some of the high-attrition- risk cells actually decreased for FY 1997 accessions. Only about 10 percent of the increase in attrition is because of slightly worse accession quality in FY 1997.

With the help of STASS (standard training activity support system) data administrators in Pensacola, we now receive end-of-month counts of accessions by these quality cells. With these we establish

baseline monthly accession quality with FY 1996 and FY 1997 accession data, using the quality cell attrition rates discussed above. We then normalize this baseline quality index to 100 for each month.

We monitor FY 1998 accession quality through May 1998 by this technique. Relative to the baseline years, accession quality was lower each month from October through February, with substantially lower quality in January and February 1998 than in recent years. From March through May 1998, however, accession quality returned to the baselines set in FY 1996-7. Appendix B reports this information in more detail.

Outcomes

Schoolhouse outcomes: Rating attainment and enlistment programs

Enlistment guarantee of A-school: Specific rating or group of ratings

Some recruits enter the Navy with promises of training for a particular rating. This means that, after completion of bootcamp, they will attend the A-school course or courses that lead to the award of the Navy rating. Other recruits enter the Navy with the promise of a particular field, such as Nuclear Field or Advanced Electronic Computer Field. Rating selection will be delayed until they complete some of the common core courses. Still other recruits enter without the promise of A-school; after bootcamp and Apprenticeship training, they will go to the fleet as general detail recruits (Gendets).

For a variety of reasons, some of these enlistment guarantees change in bootcamp, but most recruits who successfully complete bootcamp go on to what was guaranteed in their recruit enlistment program.[39]

We analyzed outcomes for those who enter with the promise of A-school (for a particular rating or for a program that may involve several rating choices) and for those who enter with no promise of

39. We have been told that everyone is reevaluated at bootcamp and that about 10 to 15 percent of the "guarantees" are changed. Another CNA study is investigating these changes in guarantee. Changes could occur because of retesting (and subsequent test score eligibility or ineligibility for a rating) or because the Navy's skill requirements have changed. Changes in rating assignments at bootcamp may benefit both the the recruit and the Navy. We have no way, however, to systematically evaluate either the costs or the benefits of these rating changes.

A-school (Gendets). Because the number of accessions (as well as the mixture of Gendets and those promised A-school) has varied over the period, we review the overall picture before examining rating outcomes. Figure 12 shows the number of accessions, as well as the mixture of accession programs.[40] Here are what we consider the most important "big picture items":

- Navy accessions fell during the period because the Navy was downsizing
- Each year's accessions were less than originally planned
  - — Beginning-of-the-year accession plans called for about 5,000 additional accessions in FY 1993, about 2,000 more in FY 1994, about 6,500 more in FY 1995, and about 8,000 more in FY 1996. Because the Navy was downsizing in these years, Congress allowed the downsizing process to occur faster than planned.[41]
- As the proportion of Gendet accessions has decreased, the fleet has begun to complain about a Gendet shortage.[42]
- In FY 1996, the proportion of accessions entering under a program with an A-school guarantee, but not a specific rating guarantee, increased substantially. This is primarily because of increases in the Advanced Electronic/Computer Field (identified by the PRIDE data field as "AEC" in appendix C).

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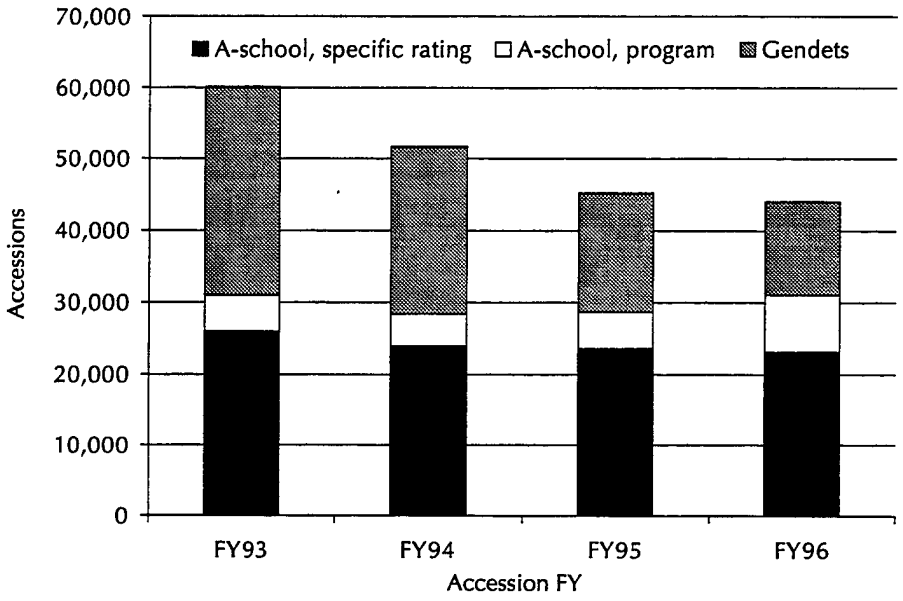
40. Our analyses examine only non-prior-service regular accessions, so our total accession numbers are smaller than total Navy accessions. In addition, we lose some records because of inaccurate social security numbers on the accession files. To do our analyses, we need information from three sources: DMDC accession data, Traintrack data derived from the Recruiting Command's PRIDE system, and the Enlisted Master Record files. We drop records if we cannot find all the information.

41. The beginning of the year FY 1997 accession plan was also about 6,500 larger than the actual FY 1997 accessions.

42. We believe that the decreasing proportion of Gendets is directly related to the reductions in accession mission in recent years *as there seems to be little in-year flexibility for reducing school seats, particularly when they have been "sold."* In brief, in-year accession reductions primarily come from the Gendet population.

Figure 12. Accessions by enlistment promise



Each accession year detailed in figure 12 has about the same number of accessions that were promised training for specific ratings. We can look at what proportions of recruits in each year received the rating they were promised. It falls steadily over the years, as shown below:

- 77 percent for FY 1993 accessions
- 75 percent for FY 1994 accessions
- 69 percent for FY 1995 accessions
- 66 percent for FY 1996 accessions.

While some of the FY 1996 accessions are still in training, initial skill training has been completed for the accession years FY 1993 through FY 1995. Thus, on this overall "scorecard," we are doing worse at translating promises into rated personnel.[43]

43. Increased bootcamp or training attrition clearly reduces the proportion of accessions that will attain their promised ratings. However, other factors can also affect this proportion. If a larger proportion of enlistment guarantees is being changed at bootcamp, a smaller proportion of recruits will attain the rating they were promised at enlistment.

Appendix C contains detailed information, but we will illustrate selected ratings and programs here. Let's look at recruits promised A-school for two ratings—Damage Control (DC) and Hospital Corpsman (HM)—comparing FY 1993 accessions with FY 1996 accessions. All analyses are through December 1997.

For DCs:

- 332 recruits in FY 1993 were promised DC A-school. Of these, 11 percent attrited at bootcamp, 83 percent were rated DCs, 1 percent received other ratings, and 4 percent left the Navy after bootcamp without becoming rated.
- 386 recruits in FY 1996 were promised DC A-school. Of these, 15 percent attrited at bootcamp, 66 percent were rated DCs, 1 percent received other ratings, 10 percent left the Navy after bootcamp without becoming rated, and 8 percent are still in the Navy as Gendets.

For HMs:

- 3,294 recruits in FY 1993 were promised HM A-school. Of these, 8 percent attrited at bootcamp, 85 percent were rated HMs, 1 percent received other ratings, and 5 percent left the Navy after bootcamp without becoming rated.[44]
- 2,044 recruits in FY 1996 were promised HM A-school. Of these, 9 percent attrited at bootcamp, 77 percent were rated HMs, 3 percent received other ratings, 4 percent left the Navy after bootcamp without becoming rated, 6 percent are still in the Navy as Gendets, and 1 percent are still in school.

Now we look at accessions for the Advanced Electronics/Computer Field, focusing on FY 1996 accessions when the program began. Of the 2,355 accessions in this program:

- 11 percent attrited from the Navy at bootcamp.
- 55 percent were rated by December 1997 (9 percent as Data Systems Technicians (DS), 20 percent as Electronics Technicians (ET), and 26 percent as Fire Controlmen (FC)).

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44. Most of these sailors attrited from an A-school course; they left the Navy at various times.

- 11 percent are still in school as of December 1997.
- 14 percent left the Navy after bootcamp without becoming rated, and 7 percent are still Gendets (but not still in school).

We believe that this summary of the Navy street-to-fleet process will become more and more valuable as we add more years of data. It should help the Navy to evaluate the whole effort of recruiting and training sailors for the fleet.

Job-Oriented Basic Skills (JOBS)

Although we did not formally analyze the JOBS program, we separated recruits by program of entry. Since JOBS recruits were identified, we tabulated some overall descriptors of the program and made a limited number of comparisons of JOBS recruits with all recruits.

For FY 1993–1996 accessions, we identified over 3,500 recruits who came in through the JOBS program. These are different JOBS strands, the numbers of recruits who entered in the individual strands, and some overall statistics:

- Engineering, 765 recruits (ratings BT, EN, GSM, HT, MM, and MR)
  - — 651 successfully completed bootcamp. Of these, 77 percent were rated.[45]
- Operations, 956 recruits (ratings AW, CTO, CTR, CTT, IS, OS, and RM)
  - — 840 successfully completed bootcamp. Of these, 79 percent were rated.
- Administrative, 280 recruits (ratings AK, AZ, CTA, DK, PC, PN, SH, SK, and YN)
  - — 241 successfully completed bootcamp. Of these, 88 percent were rated.

45. Whereas 77 percent of recruits in this JOBS strand who *completed* bootcamp were successfully rated, 66 percent of recruits *entering* bootcamp in this JOBS strand were successfully rated. Not all rated personnel were rated in the strand ratings. Table 6 in appendix C shows this information in more detail.

- Electronics, 1,344 recruits (ratings AT, CTM, ET, EW, FC, GMG, GMM, and STG)
  - 1,181 successfully completed bootcamp. Of these, 75 percent were rated.
- Three JOBS strands (Electrical, Navigator, and Airframe mechanic) had too few accessions for analysis.

Bootcamp attrition rates for JOBS recruits were a little higher than average for recruits entering in FY 1993 and FY 1996 and a little lower than average for JOBS recruits entering in FY 1994 and FY 1995. Thus, the findings are mixed. Other measures of success that we have used include the percentage rated or the percentage making it to the fleet. For both of these measures, the proportion of JOBS recruits who achieve success is somewhat smaller than the overall proportion of recruits who are successful. Given that JOBS program participants needed some remediation, this finding is not surprising. Evaluating the cost-effectiveness of JOBS, however, will need to wait for another effort.

What happens to sailors who fail an A-school course?

Attrition from the Navy

Early in this study, we built a database for accessions who were promised a particular rating,[46] following their Navy histories from

46. In this early work, we used program enlisted for (PEF) information in our accession files that we built from Defense Manpower Data Center (DMDC) and Enlisted Master Record (EMR) data. The PEF variable comes from the Military Entrance Processing Command (MEPCOM). MEPCOM uses service-specific codes for this variable, and DMDC does not do an edit check to remove invalid data. We learned this the hard way, spending considerable time "cleaning" the variable for this analysis. Later we investigated Traintrack, a Naval Personnel Research and Development Center (NPRDC) database built for Navy Recruiting Command from Navy Recruiting Command's PRIDE database. The enlistment program information is more complete and more accurate in Traintrack. We have used this information on enlistment programs in the remainder of our analysis. We include it in our mainframe dataset built during the study, and strongly recommend that it be used in all further analyses that require entry program information.

bootcamp through any subsequent schooling and into jobs in the fleet. We used this database as the basis for our analyses in this section of what happens to sailors who fail an A-school course. About 10 percent of the sailors who enter the Navy with a promise for training for a particular rating fail at least one A-school course.[47]

Specifically, we examine what happens to sailors entering in FY 1993 through FY 1995 who:

- Were promised training for a particular rating at accession
- Successfully completed bootcamp
- Did not receive the rating of their original guarantee[48]
- Failed at least one A-school course.

About 4,000 sailors fit these criteria; 30 percent were academic attrites and 70 percent were nonacademic attrites from A-school.[49]

What happens to sailors who fail A-school? It depends on the type of failure. We analyzed subsequent Navy attrition behavior separately for recruits who failed an A-school course for academic reasons and those who failed a course for nonacademic reasons.

We divided the outcomes into the following categories:

- Attrition from the Navy

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47. An extremely small number of sailors fail two A-school courses.

48. We assume that sailors who are rated in the rating of their school guarantee successfully passed their A-school courses.

49. An alternative strategy would have been to do a global analysis of what happens to all sailors who fail an A-School course. Our more restricted analysis has both advantages and disadvantages. Most of the advantages stem from the fact that this was our first analysis of A-school attrition with the new schoolhouse training data, Navy Integrated Training Resources and Administration System II (NITRAS II). Understanding the population of the group we were analyzing and having smaller file sizes made it easier to validate the accuracy of the work. For example, throughout the analysis, we examined individual records, by social security number, in both the NITRAS data and in the Navy personnel files to verify that our computer code correctly classified sailors.

— At the time of the A-school course failure[50]

— More than 2 months after the course failure, but before reporting to first duty station (characterized as a prolonged separation process)

— After arrival at the first duty station. This attrition is calculated up to the maximum number of months that we could monitor for the accession-year cohort. For accessions entering in FY 1993, FY 1994, and FY 1995, it is separating before 42, 30, and 18 months, respectively.

- Completed the specified number of months. For accessions entering in FY 1993, FY 1994, and FY 1995, it is completing at least 42, 30, and 18 months, respectively.

Our second attrition category is interesting. While we had initially assumed that sailors who did not separate from the Navy within 2 months of the course attrition had gone on to regular duty, this was not correct. Particularly for sailors with nonacademic course failures (many of whom have serious legal problems and others who have problems we do not fully understand), substantial numbers never make it to a duty station.

Thus, we have divided the subsequent attrition from the Navy into two categories. If the sailor attrited without having had an accounting category code (ACC) of 100 (full duty), we said the sailor had attrited before reporting to his or her first duty station. Some of these separations take a very long time, but we can only categorize them as delayed separations, resulting from problems identified at the time of the A-school course failure. We distinguish these separations from those that occur after the sailor has reported for full duty.

About half of the nonacademic A-school attrites separate from the Navy at the time of the course failure. Another 20 percent, for an overall total of 70 percent of the nonacademic A-school failures,

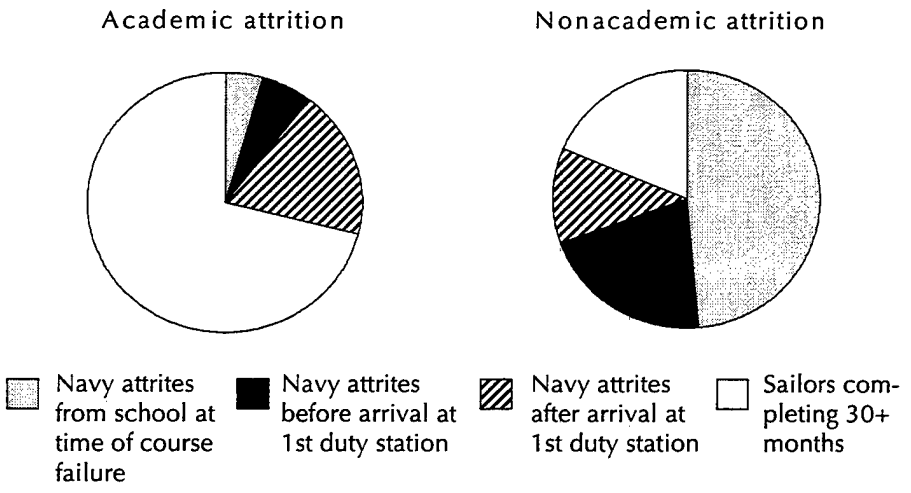
50. If the separation occurs within 2 months of the failure of the A-school course, we identified the sailor's attrition as Navy attrition from school. A-schools cannot attrite sailors from the Navy, but they can recommend sailors for separation from the Navy.

separate sometime over the next year or so without ever making it to full duty status.

For academic A-school attrites, the picture is quite different. Very few academic A-school attrites separate from the Navy at the time of the course failure.

Patterns are similar in all years. Figure 13 provides the information for FY 1994 accessions. Appendix D provides more detailed information for each year.

Figure 13. A-school failures and subsequent Navy attrition behavior: FY 1994 accessions



Rating attainment after an A-school course failure

Now we examine in more detail what happens to the sailors who fail an A-school course but either stay in school or report to their first duty station. Thus, we drop from our analyses those sailors whose separation process is prolonged but whose separation procedures began with the A-school course failure. In terms of the pie charts in figure 13, we are now focusing only on sailors in the last two wedges.

In FY 1993, we found about 1,400 sailors with A-school failures. Focusing only on those who either stay in A-school or go to the fleet after the A-school course failure, we have 604 sailors. Here's how they did:

- For the academic failures
  - — 119 are reassigned to another school and get rated; 81 percent complete at least 42 months of service
  - — 203 report for regular duty as Gendets; 57 percent complete at least 42 months of service
- For the nonacademic failures
  - – 24 are reassigned to another school and get rated; 92 percent complete at least 42 months of service
  - – 258 report for regular duty as Gendets; 42 percent complete at least 42 months of service.

As stated earlier, the academic failures do considerably better than the nonacademic failures. This difference is particularly interesting in this context, because we've now restricted the sample to those sailors the Navy has decided to retain. It appears to us that the standards for retention are not tough enough for the nonacademic sailors who are sent to the fleet as Gendets. Only about one-quarter of the nonacademic failures were allowed to stay in the Navy and go on to regular duty stations. Still, of these, the majority will be separated before they complete their initial enlistment.

The patterns for FY 1994 accessions whom the Navy has decided to retain after the A-school failure are similar to those we observed for FY 1993 accessions. We can watch these FY 1994 accessions for only 30 months of service:

- For the academic failures
  - — 121 are reassigned to another school and get rated; 95 percent complete at least 30 months of service
  - — 305 report for regular duty as Gendets; 73 percent complete at least 30 months of service

- For the nonacademic failures
  - 26 are reassigned to another school and get rated; 92 percent complete at least 30 months of service
  - 262 report for regular duty as Gendets; 56 percent complete at least 30 months of service.

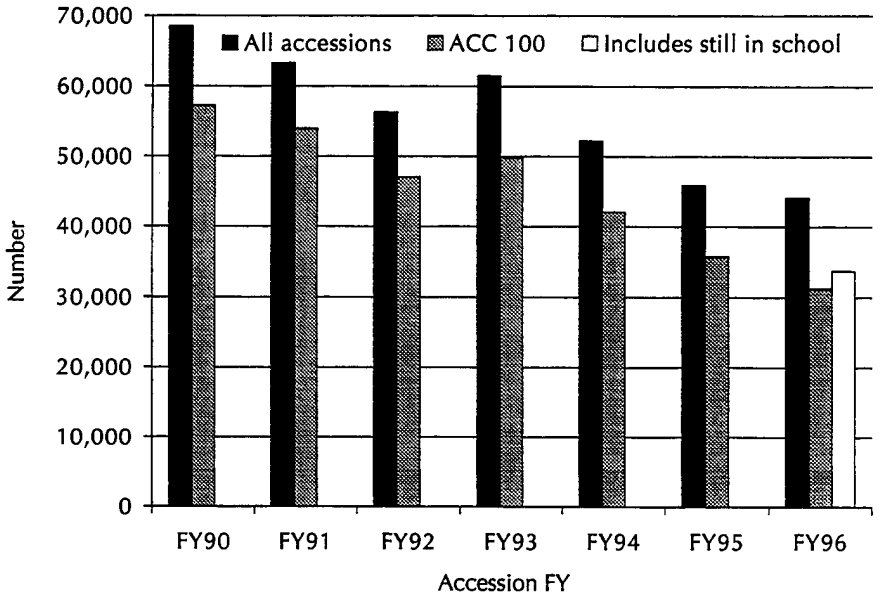
Because we can observe FY 1995 accessions for only 18 months of service, even less information is available. Still, we see the same patterns as in earlier years. About one-third of the academic failures stay in A-school and get rated in a different rating. Subsequent attrition rates for this group are small. The very small number of nonacademic failures who are reassigned to another school and get rated also do well.

One persistent finding in this 3-year analysis of A-school attrition is that sailors who are given a second chance at a different A-school appear to do well. Earlier CNA analyses to support the CNO's attrition task force had similar findings and suggested that the Navy might be able to reduce first-term attrition by offering more A-school failures a second chance at A-school [10]. In [11], Vice Admiral Bowman described actions taken as a result of recommendations from the attrition task force, "We are giving a second chance at 'A' school in certain cases to Sailors not finishing their first time through." Thus, we should see more sailors in the FY 1996 and FY 1997 accession cohorts who are given a second chance at A-school.

How do sailors do in the fleet?

The ultimate objective of the Navy Training Command is to get sailors to the fleet. Figure 14 shows how many accessions entered the Navy in FY 1990–1996 and how many sailors have made it to the fleet. We define fleet as achieving full duty status (accounting category code 100).[51] Although our information is current through December 1997, some of the FY 1996 accessions are still in training. Thus, for FY 1996 accessions, we also show the number of accessions who either achieved full duty status or who were still in school as of December 1997 as an additional stovepipe. Most, though not all, of these sailors who are still in school will make it to the fleet.

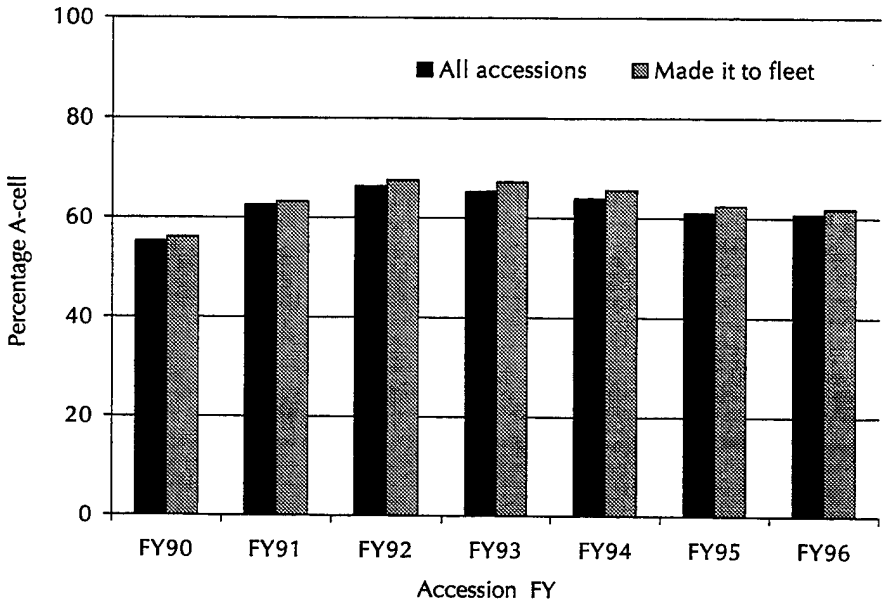
Figure 14. Accessions and those who made it to the fleet



51. We also include the small number of sailors who are on full duty as pre-commissioning crews, ACC 106.

What about the quality of sailors going to the fleet? Figure 15 compares the percentage of accessions and the percentage of sailors who make it to the fleet who are top-quality recruits. The A-cell recruits are the Navy's top quality category—Tier I graduates who also test in the top half of the ability distribution. As is clear from the figure, the fleet is getting slightly better quality than the quality that is coming in the front door.

Figure 15. A-cells: Accessions and those who made it to the fleet[a]

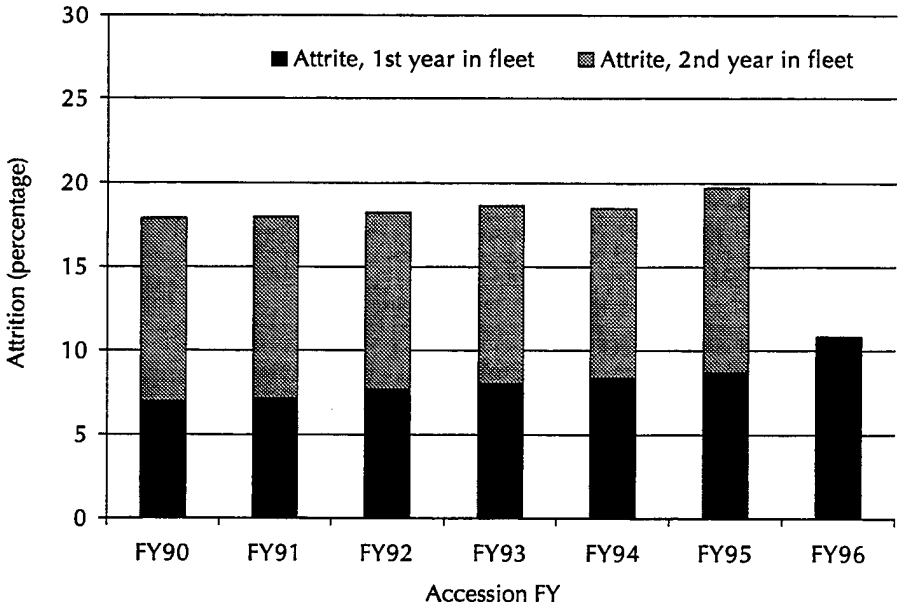


a. A-cell: High school graduates in top 50 percent of ASVAB test scores.

We then analyzed attrition in the fleet. Figure 16 shows the attrition broken down by first and second year assigned in the fleet. Note that for FY 1996 accessions and the second year for FY 1995 accessions, we cannot observe *all sailors* for the full 12- or 24-month period. Because of long training pipelines, many of these sailors have not been in the fleet long enough. As of December 1997 (the last point in our data) Gendets and short A-schoolers are overrepresented in the observations for these two periods. Over time, as sailors with longer schools can also be observed for the full periods, we expect that the attrition

rates for these two periods may fall somewhat. In the past at least, sailors from the more technical and longer schools have had lower than average attrition rates. Thus, for example, whether first-year attrition rates for FY 1996 accessions will remain above the first-year rates for FY 1995 accessions is, as of this date, an open question.

Figure 16. Fleet attrition: Sailors' first and second years in fleet



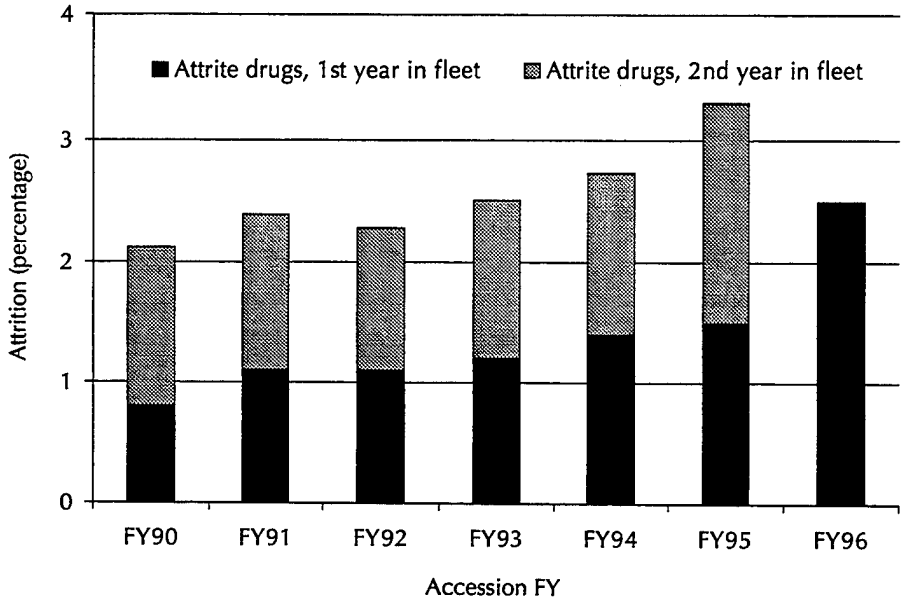
CNET was interested in the proportion of fleet attrition that was for drugs. Currently, everyone reporting to A-school is tested for drugs. Then, as at other commands, random drug testing takes place throughout A-school. There is no uniform testing at the completion of A-school before sailors go to the fleet. Figure 17 shows the separation percentages for drugs during sailors' first and second years in the fleet.

We would make the same caveats for the drug attrition shown in figure 17 that we made for overall attrition depicted in figure 16. Because sailors with longer A-schools could not yet be observed for the full period, attrition is still incomplete for:

- The full second year in the fleet for FY 1995 accessions
- The full first year in the fleet for FY 1996 accessions.

Even with these caveats, however, we believe that drug attrition is definitely up in the fleet. This accords with civilian-sector findings showing higher drug use among high school seniors [12].

Figure 17. Fleet drug attrition: Sailors' first and second years in fleet



Because drug use appears to be increasing overall and because drug separations are increasing in the fleet, we would recommend that uniform drug testing be done near the end of A-school, before sailors are sent to the fleet.

What can we say about the impact of gender-integrated training?

Background

By the summer of 1994, the Navy had a fully gender-integrated training program in place at its single-site bootcamp at Recruit Training Command Great Lakes. Thus, all recruits who entered the Navy in FY 1995 and FY 1996 went through gender-integrated bootcamp, although not all recruits will have trained in gender-integrated divisions.[52] Because the purpose of all Navy training is to prepare sailors for the fleet, it is relevant to ask if we can see any gender differences in fleet attrition rates before and after the full implementation of gender-integrated training.

To analyze this question, we began with all Navy accessions in the FY 1990–1996 period. Because we are interested in fleet attrition, we then restricted our analyses to those who made it to the fleet. We will look at gender differences in fleet attrition for the first and second year in the fleet.[53] We divided these first duty assignments in the fleet into:

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52. The Navy tries to have half women and half men in the gender-integrated divisions, but there are not enough women to gender-integrate all divisions. Thus, all women will have trained in gender-integrated units, but only about 20 percent of the men will have trained in gender-integrated units.

53. Some recruits attrite in bootcamp or in school and do not make it to the fleet. They are not the subject of our analyses. Recruits who make it to the fleet have different amounts of time in the Navy when they start their "first year in the fleet." For example, a Gendet may have 4 months of Navy service, whereas a nuclear-trained electronics technician may have 18 months of Navy service when he or she arrives at their first duty station.

- CONUS shore assignments
- Sea and OCONUS assignments.

Currently, less than 10 percent of the first duty station male assignments are to CONUS shore activities compared with 40 percent of first duty station female assignments. As new ships are built with more flexible berthing, and as more berthing spaces in older ships are reconfigured, these percentages should change.

Findings

Figure 18 reports the results of the analyses for male and female sailors assigned to shore duty in CONUS. For accessions in FY 1990 through FY 1993, there are very sharp differences between male and female sailors in fleet attrition rates, with the female first- and second-year attrition rates roughly double those of the males. For FY 1994 accessions, these differences are reduced somewhat. All recruits entering in FY 1995 and FY 1996 were trained at RTC Great Lakes in a gender-integrated training environment. The differential in fleet attrition rates by gender has narrowed since the implementation of gender integrated training at the single-site bootcamp.[54]

Figure 19 shows the same information for those sailors who were assigned to overseas or to sea duty. The gender differences (before and after gender-integrated training) are even more striking here. Since the onset of gender-integrated training at a single-site bootcamp, fleet attrition rates of male and female sailors with sea duty or overseas assignments have been much more equal.

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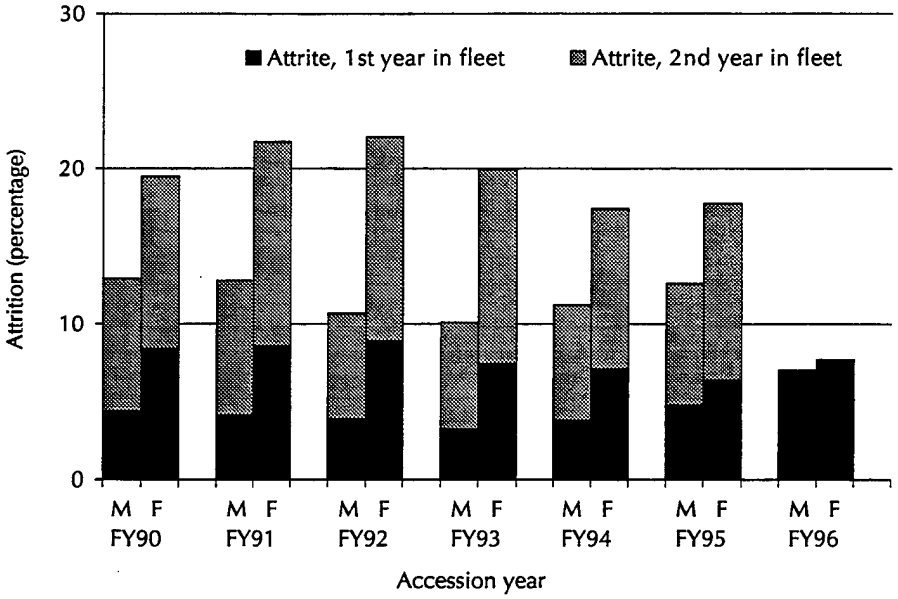
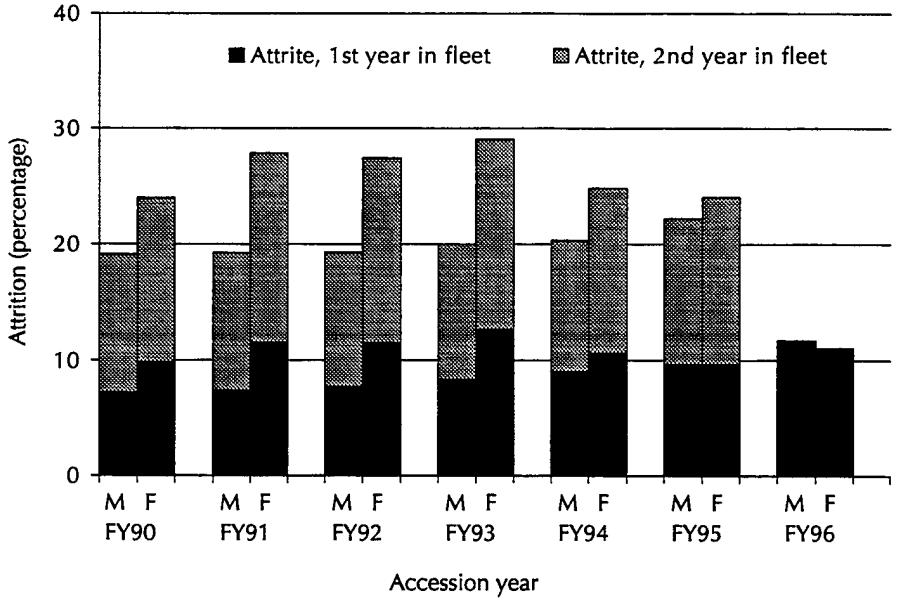
54. To calculate first- or second-year fleet attrition rates, we need to be able to potentially observe the sailor for the entire first or second year in the fleet. Our data are complete through December 1997. FY 1995 accessions had to arrive at the fleet by January 1996 to be part of the second-year analysis. Similarly, FY 1996 accessions had to be assigned to fleet jobs by January 1997 to be observed for the full first year. The sailors we do observe in these two periods are primarily Gendets or short A-schoolers. We will need to wait until about December 1998 before all the information is complete for these two accession cohorts.

Figure 18. Male and female fleet attrition: Sailors' first and second years in fleet (CONUS shore duty)[a]



a. 1st fleet year begins when assigned full duty (ACC 100 or ACC 106).

Figure 19. Male and female fleet attrition: Sailors' first and second years in fleet (sea and OCONUS duty)[a]



a. 1st fleet year begins when assigned full duty (ACC 100).

Many things affect attrition rates, so it is not possible to "scientifically" attribute changes in fleet attrition rates to gender-integrated training. The findings, however, are certainly consistent with the view that gender-integrated training in the Navy has made the subsequent fleet attrition behavior of male and female sailors more similar.

Where do we go from here?

Integrating personnel and training data

The task behind all the specific topics that we have analyzed in this study was the integration of Navy personnel data with Navy training data. We have made considerable progress in this area, but much remains to be done.[55] During the study, we concentrated on what we have called the street-to-fleet process—integrating recruiting, bootcamp, initial skills training (A-school), and fleet information.

Mainframe dataset

We have built a file on our DEC Alpha computer, integrating recruiting, bootcamp, initial skills training, and fleet data, called the Street-to-Fleet Dataset. It uses accession data, which we receive annually from DMDC, personnel data from the Enlisted Master Record (EMR) file, received quarterly from BUPERS, Student Master File data from CNET's NITRAS, and recruiting data from the Traintrack system, which we receive monthly from Navy Recruit Training (CNRC). Appendix E details the fields on the file.[56]

The database contains one record for every non-prior-service accession, beginning in FY 1993. It has demographic information on the sailor at the time of entry: age, race/ethnic group, marital status, number of dependents, and gender. It includes educational/testing data: years of education, education certification, AFQT score and category, education tier, and cell group. It also carries waiver information and a Military Entrance Processing Station identifier. From the

55. For example, we have done no work on Navy Enlisted Classification (NEC) training.

56. A forthcoming CNA information memorandum will provide more detail on this dataset.

Traintrack system, we include the final school/rate promised/guaranteed, the program type, and the length of the sailor's obligation. We compute an accession quality variable, based on AFQT score, high school graduation, and participation in the delayed entry program.

As the sailor progresses through the Navy, we gather additional information: the first non-Gendet rating received, and the date awarded, the date the sailor achieved full duty status (Accounting Category Code (ACC) 100 or 106), and information about the sailor at that full duty status date. Most of these are new summary variables built from CNA's longitudinal history files. We also capture the current data for the sailor at the end of each file update: paygrade, demotion status, months in the Navy, and ACC. When the sailor leaves the Navy, we include the loss date, the loss reason, and the activity and UIC at time of loss.

Some fields involve recoding the basic data into more meaningful analytic categories. Other fields are new. For example, we've an algorithm to determine how the sailor was rated (through school or through on-the-job training).

From the CNET schoolhouse data, we extract the following for each bootcamp and A-school course: the CDP, course type, start and completion dates, the course outcome, and the days under instruction, awaiting instruction, interrupted instruction, and awaiting transit. We carry information for up to six courses, which is sufficient for 99 percent of the sailor's bootcamp and A-school courses. We identify the small number of records for which six courses truncate the data.

The file will be updated quarterly with EMR and schoolhouse data. Annually, when we receive the fiscal year accession data from DMDC, we will add that year's accessions, including data from Traintrack.

The Street-to-Fleet Dataset will be available to CNET as a flat file or a SAS database.

Concluding comments and recommendations for action

This study has convinced us that this is a fertile area for research. We hope to continue our investigations. Now, let us close by again reviewing our recommendations for action:

- Bootcamp separation reasons are currently coded into two separate data systems, one administered by the training command and another by the personnel command. We compared separation reasons in the two systems for all recruits separated at bootcamp in FY 1996. The two systems give different pictures of the reasons for bootcamp attrition in FY 1996. We recommend that separation coding be made consistent, probably by constructing a table that maps codes from one system to the other.
- We spent considerable time analyzing bootcamp attrition and investigating better ways to calculate noncohort attrition rates. Our aim was to construct a real-time measure of bootcamp attrition that would capture only attrition behavior; current measures capture both attrition behavior and accession phasing. We also looked at what information in the CNET monthly bootcamp attrition report would be most valuable to decisionmakers. We recommend that the CNET monthly bootcamp attrition report be revised according to our specific recommendations in this document.
- Over one-third of the recruits at bootcamp report preservice smoking. These recruits have bootcamp attrition rates that are almost double those for nonsmokers. To help the Navy reduce bootcamp attrition and to help the nation understand youth smoking behavior, we recommend that the Navy try to obtain outside funding to support smoking-cessation initiatives at bootcamp, as well as followup programs.
- To meet accession goals, Navy Recruiting Command has recently expanded its market to include proportionately more recruits that have a higher attrition risk. Some of these recruits score low in verbal test categories. Our analyses of the Fundamental Applied Skills Training (FAST) program at bootcamp suggested that it was quite effective in reducing bootcamp

attrition. If the FAST programs cannot currently enroll the number of recruits eligible on the basis of their test scores, we recommend that the Navy consider expanding the FAST program to accommodate all those eligible.

- We found only slightly higher than average bootcamp attrition rates for recruits with drug waivers, but we did find two categories of waivered recruits with high attrition rates: those with dependency waivers and those who had previously attrited from the DEP or from bootcamp (previous disqualifications). In response to our recommendations earlier in the study, the Chief of Navy Recruiting Command (CNRC) is investigating dependency waivers and has moved the waiver authority for previous disqualifications to the CNRC level.

- Some sailors who fail an A-school course, primarily as an academic course failure, continue schooling in a different A-school. We found virtually no further A-school attrition for these sailors who were subsequently rated. Our findings support previous CNA analyses. We understand that initiatives are under way to increase the number of sailors allowed to continue in A-school in a different area after an initial course failure. We strongly support these initiatives to provide a second chance at school.

- Sailors with nonacademic course failures who are sent to the fleet as Gendets have high fleet attrition. We recommend that these sailors be screened more carefully before being sent to the fleet.

- There appears to be an increase in drug use in society at large, and our analyses of attrition from the fleet showed increasing percentages of separations because of drug use. A-schools test all students upon arrival and then randomly test throughout the school period. We believe that the Navy should consider uniformly testing all sailors near the completion of A-school, before they go to the fleet.

Appendix A: More information on separation reasons

Table 2 shows how we coded specific NITRAS and DOD separation codes from Navy training and personnel data into the separation reason categories of table 1.

Table 2. Classification categories developed for NITRAS and DoD separation codes

NITRAS separation codes: classified into categories	
Medical/physical	
167	Medical, orthopedic, service-connected reasons as determined by duly appointed medical board.
168	Medical, orthopedic, pre-service as determined by duly appointed medical board.
170	Medical, podiatry, pre-service as determined by duly appointed medical board for podiatry.
172	Medical pre-service as determined by duly appointed medical board for general surgery.
174	Medical, urology, pre-service as determined by duly appointed medical board.
176	Medical, pre-service as determined by duly appointed medical board.
178	Medical, neurology, pre-service as determined by duly appointed medical board.
180	Medical, pre-service, dermatology as determined by duly appointed medical board.
181	Medical, service-connected, internal medicine as determined by duly appointed medical board.
182	Medical, pre-service, internal medicine as determined by duly appointed medical board.
184	Medical, pre-service, ear, nose, and throat as determined by duly appointed medical board.
186	Female student's medical, pre-service, gynecological (excluding pregnancy) as determined by duly appointed medical board.
188	As determined by duly appointed medical board for a psy/psych medical reason, pre-service, specifically related to suicidal/self-destructive behavior, ideation or gesture.
189	Service-connected as determined by duly appointed medical board for a psych/psych medical reason specifically related to suicidal behavior, ideation, or gesture.
190	As determined by duly appointed medical board for a psych/psych medical reason excluding suicidal behavior that is service connected.
191	As determined by duly appointed medical board for a psych/psych medical reason (pre-service) excluding suicidal behavior.
366	Any other service connected medical reason not covered by other events.
367	Any other pre-service medical reason not covered by other events.
Drug/alcohol abuse	
206	Student's drug use as determined by urinalysis screening subsequent to initial screening.
Fraudulent enlistment- Drug/alcohol abuse	
220	Fraudulent enlistment- Drug use prior to service entry as discovered through initial drug screening, non-cannabis.
221	Fraudulent enlistment- Drug use prior to service entry as discovered through initial drug screening, cannabis.
222	Fraudulent enlistment- Drug use pre-service as indicated by initial drug screening.
625	Fraudulent enlistment- Drug dependency.
Fraudulent enlistment- Not related to drugs or alcohol	
224	Fraudulent enlistment- Failure to disclose pre-service arrest record.
226	Fraudulent enlistment- Undisclosed prior service, pre-service.
MOT (Erroneous enlistment)	
216	As result of the MOT interview, recruit reveals information about himself/herself that would normally have resulted in the individual not being eligible for initial enlistment.

Table 2. Classification categories developed for NITRAS and DoD separation codes (continued)

NAV/AFMET (Erroneous enlistment)	
217	As a result of Navy/Air Force Medical Evaluation Test (NAV/AFMET). Recruit reveals psychological info that would have resulted in individual not being eligible for initial enlistment.
Personality disorder/inability to perform satisfactorily	
192	As determined by exhibition of a personality disorder. (Not suicidal).
193	Repeated bedwetting as determined by clinical psychiatrist/psychologist/medical officer.
194	As determined by clinical psychiatrist/psychologist/medical officer for repeated sleepwalking.
195	Inability to perform satisfactorily in given situations excluding suicidal behavior.
320	Negative military attitude.
368	Student not able to adapt to military life.
Breach of contract	
386	Basic military training, breach of contract.
Legal	
199	Conviction of a felony criminal offense by a civilian court.
203	Punished under UCMJ for a military offense or shown to have exhibited misconduct through repeated minor discplinary infractions.
Homosexuality	
223	Fraudulent enlistment- Homosexuality, pre-service.
Other	
135	An administrative procedure available to students in certain high-risk courses which includes provision for Drop on Request.
149	Personal or family circumstances as approved.
158	Medical, pregnancy.
207	Student's death which occurred while student/RECRUIT was not in a directed training procedure.
209	Student/recruit's death which occurred as a result of self-inflicted/intentional act.
215	Erroneous enlistment. Student would not have been eligible for initial enlistment If certain non-medical factors had been known.
218	Erroneous enlistment- Underage minor.
268	Awaiting either transfer or discharge for Baby Hold and is accruing AT time for the training activity. Student or student's wife having a child or waiting until newborn can travel.
311	Used ONLY when no other PEC will accurately describe the event to be reported.
DoD separation codes: classified into categories	
Medical/physical	
JFL	Disability w/ severance pay
JFR	Disability- other
JFW	Failure to meet medical/physical procurement standards
SFK	Disability, temporary
Erroneous entry- Drug or alcohol abuse	
JFA, YFA	Erroneous entry- Alcohol abuse
JFU, YFU	Erroneous entry- Drug abuse
Drug/alcohol abuse	
HKK, JKK	Drug abuse

Table 2. Classification categories developed for NITRAS and DoD separation codes (continued)

Fraudulent enlistment- Drug/alcohol abuse	
JDT	Fraudulent entry- Drug abuse
JDU	Fraudulent entry- Alcohol abuse
Fraudulent entry- Not related to drug or alcohol abuse	
GDA, JDA	Fraudulent entry- Not related to drug or alcohol abuse
Erroneous entry- Not related to drugs or alcohol	
JFC	Erroneous entry- Not related to drugs or alcohol
Personality disorder/inability to perform satisfactorily	
KFV, JFV	Condition, not a disability
JFX	Personality disorder
JGA	Unsatisfactory entry level performance and conduct (first 180 days)
Breach of contract	
KDS	Non-fulfillment of service contract
Legal	
HKQ, JKQ	Commission of serious military or civilian offense
KFS	In lieu of trial by court martial
Homosexuality	
HRA	Homosexual act
HRB	Homosexual admission
HRC	Homosexual marriage (or attempt)
Other	
920	Dismissal
928	Unknown- non-combat, non-operational
HKA	Pattern of misconduct
HKL	Sexual perversion
JDF	Pregnancy or childbirth
JDG	Parenthood or custody of minor children
JFF	Secretarial authority
JKN	Pattern of minor disciplinary infractions
KDB	Continued service would impose a hardship
KGX	Enter officer training program

Appendix B: Calculating monthly bootcamp attrition rates and establishing a recruit quality index

Calculating monthly bootcamp attrition rates

This appendix contains the data for attrition calculations for both the CNET method and the new method proposed by CNA. Table 3 contains the calculated attrition rates for the two methods since November 1994. As a reminder, the CNET attrition calculation uses the formula used throughout the Naval Training Command:

CNET attrition rate/period = (Attrites/period)/(Student flow/period)

where:

Student flow = (Enrollees/period + Graduates/period + Attrites/period + Disenrollees/period)/2

(Note: There are no disenrollees in recruit training; eventually everyone is a graduate or an attrite.)

We argue that the formula does not make sense for recruit training. After tracking the pattern of attrition at the RTC, we concluded that for monthly calculations about 25 percent come from the accessions this month and about 75 percent come from accessions last month. Thus, our proposed RTC attrition formula is:

RTC attrition/month = Attrites this month / (.25 Accessions this month + .75 Accessions last month).

We believe that this measure will track only trends in attrition, not the combination of trends in attrition and the pattern of accession phasing in this and previous months.

Table 3. Monthly bootcamp data and attrition calculations

Date	Accessions	Attrites	Graduates	Student flow	Attrition rates (%) CNET	Proposal
9410	3,733	583	4,945	4,631	12.6	
9411	4,388	526	4,524	4,719	11.1	13.5
9412	3,426	544	3,650	3,810	14.3	13.1
9501	3,492	480	3,759	3,866	12.4	13.9
9502	3,621	411	2,557	3,295	12.5	11.7
9503	3,272	686	3,459	3,709	18.5	19.4
9504	2,786	540	2,930	3,128	17.3	17.1
9505	2,957	439	2,920	3,158	13.9	15.5
9506	4,243	454	2,527	3,612	12.6	13.8
9507	4,896	624	1,963	3,742	16.7	14.2
9508	4,934	571	3,201	4,353	13.1	11.6
9509	5,077	569	4,694	5,170	11.0	11.4
9510	4,254	643	3,978	4,438	14.5	13.2
9511	3,772	569	4,339	4,340	13.1	13.8
9512	3,698	546	2,999	3,622	15.1	14.5
9601	4,139	565	3,870	4,287	13.2	14.8
9602	3,839	555	3,348	3,871	14.3	13.7
9603	3,159	584	3,675	3,709	15.7	15.9
9604	2,642	487	3,195	3,162	15.4	16.1
9605	2,801	371	2,861	3,017	12.3	13.8
9606	5,063	322	2,626	4,006	8.0	9.6
9607	4,269	541	1,919	3,365	16.1	11.1
9608	4,171	457	4,604	4,616	9.9	10.8
9609	3,991	366	3,965	4,161	8.8	8.9
9610	4,777	512	4,072	4,681	10.9	12.2
9611	4,663	645	4,113	4,711	13.7	13.6
9612	3,733	898	3,405	4,018	22.3	20.3
9701	3,844	564	4,261	4,335	13.0	15.0
9702	2,758	561	2,639	2,979	18.8	15.7
9703	2,307	454	3,050	2,906	15.6	17.2
9704	1,824	381	3,231	2,718	14.0	17.4
9705	2,807	353	2,155	2,658	13.3	17.1
9706	4,196	395	1,627	3,109	12.7	12.5
9707	6,012	574	1,907	4,247	13.5	12.3
9708	6,159	683	3,287	5,065	13.5	11.3
9709	6,028	593	4,442	5,532	10.7	9.7
9710	3,594	916	5,882	5,196	17.6	16.9
9711	3,306	489	4,911	4,353	11.2	13.9
9712	3,216	502	3,503	3,611	13.9	15.3
9801	4,097	487	3663	4,124	11.8	14.2
9802	3,230	602	2,069	2,951	20.4	15.5
9803	2,279	657	3,116	3,026	21.7	22.0
9804	1,998	452	3,147	2,799	16.1	20.5
9805	2,932	433	2,098	2,732	15.8	19.4

Table 3 shows all the data.[53] While the CNET calculations show bootcamp attrition falling from March 1997 through May 1997, the CNA calculations show a lower attrition rate in February, and then attrition rates that exceed 17 percent for March, April, and May 1997. Attrition rates calculated by the CNA method exceed the rates calculated by the CNET method in each of these three months. The CNET calculation understates attrition in March through May 1997 because the size of the denominator in each of these months is too large.[54]

The attrition-risk population in March, April, and May is small. In March, the attrition-risk population comes from a mixture of the 2,307 recruits who entered in March and the 2,758 recruits that entered in February. In April, the attrition-risk population comes from a mixture of the 1,600 recruits who entered in April and the 2,307 recruits who entered in March. In May, the attrition-risk population comes from a mixture of the 2,807 recruits who entered in May and the 1,600 who entered in April.

An additional problem with the CNET attrition rate calculation is that it is complicated. The student flow calculation is an attempt to smooth accession phasing by counting everything twice and dividing by two. However, including graduates who come from several past months increases the problem of sorting out what is happening. Particularly when the CNET calculation is used for as short a period as a month, it is almost impossible to figure out what is going on. The advantage of our proposed calculation method is that it is easy to understand.

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53. Monthly accessions (enrollees), graduates, attrites, and student flow data are taken from the monthly CNET attrition reports, which use NITRAS as a data source. As of FY 1998, CNET no longer publishes a monthly student flow number in the report. Thus, in FY 1998 we calculate student flow.

54. In these months, the student flow calculations produce a denominator that is too large primarily because bootcamp graduates are included in the denominator. Bootcamp graduates in March through May 1997 came into the Navy primarily in January through March 1997. In brief, the bootcamp graduates in the denominator have nothing to do with bootcamp attrition in the months of March through May 1997.

Establishing a recruit quality index

Each month we receive counts of the number of accessions in each of our seven quality cells. These quality cells and their baseline bootcamp attrition rates are:

- Cat 1: AFQT category I-II (percentile 65-99), high school graduates, accessed through DEP, with baseline bootcamp attrition rate of 9.4 percent
- Cat 2: AFQT category IIIA (percentile 50-65), high school graduates, accessed through DEP, with baseline bootcamp attrition rate of 11.9 percent
- Cat 3: AFQT category IIIB (percentile 49 or below), high school graduates, accessed through DEP, with baseline bootcamp attrition rate of 14.4 percent
- Cat 4: AFQT category I-IIIA (percentile 50-99), high school graduates, direct ship, with baseline bootcamp attrition rate of 13.9 percent
- Cat 5: AFQT category IIIB (percentile 49 and below), high school graduates, direct ship, with baseline bootcamp attrition rate of 17.9 percent
- Cat 6: All AFQT categories, not high school graduates, accessed through DEP with baseline bootcamp attrition rate of 20.3 percent
- Cat 7: All AFQT categories, not high school graduates, direct ship with baseline bootcamp attrition rate of 24.1 percent.

Using these baseline quality cell attrition rates and FY 1996-97 monthly accessions by quality cell, we calculated baseline monthly attrition rates (see table 4). Next, we projected monthly bootcamp attrition rates for FY 1998, weighting FY 1998 accession quality cells for each month by the baseline quality cell attrition rates. After normalizing the baseline index data to 100 for each month, we computed the monthly FY 1998 accession quality index.

If the baseline month's attrition rate is equal to the FY 1998 projected rate, we say that FY 1998 recruit quality for that month is equal to that

in the base period (i.e., base quality index for month = FY 1998 quality index for month = 100). If recruit quality in the month is better than it was in the baseline period, the recruit quality index will be greater than 100. Conversely, if recruit quality in the month is worse than it was in the baseline period, the recruit quality index will be less than 100.

Table 4. Monthly bootcamp data and attrition calculations

Month	Baseline attrition rate	Projected FY 1998 attrition rate	Baseline quality index	FY 1998 quality index
October	13.54	13.89	100	97
November	13.50	13.70	100	99
December	13.47	14.04	100	96
January	13.47	14.55	100	92
February	13.38	14.34	100	93
March	13.48	13.41	100	101
April	13.58	13.34	100	102
May	12.98	12.84	100	101
June	13.40		100	
July	12.95		100	
August	12.91		100	
September	12.97		100	

Specifically, monthly baseline bootcamp attrition rates (BAR) and projected monthly bootcamp attrition rates (PAR) are calculated the same way. Monthly counts of accessions by quality cell are weighted by the attrition rates for each quality cell described above.[55]

Let A_i be the attrition rate for the ith quality cell. These attrition rates were derived from our analyses of accessions during FY 1994 through FY 1996.

Let R_i be the number of recruits in the ith quality cell for the month.

55. For the baseline calculations (BAR), the accession quality counts by month are the average of the two years in the baseline (1996 and 1997); the denominator of the expression is the average number of accessions in the two years.

$$BAR_i = \frac{\Sigma (A_i)\ (R_i)}{\Sigma (R_i)}$$

$$PAR_i = \frac{\Sigma (A_i)\ (R_i)}{\Sigma (R_i)} \quad .$$

Thus, the FY 1998 quality index, by month is:

Quality Index in month i = 100 - (100 (*PAR-BAR*) /*BAR*).

Appendix C: Program of entry and rating attainment

This appendix contains three tables that detail, by enlistment program of entry, the outcomes of recruits in FY 1993 through FY 1996. These accessions are tracked through December 1997. Table 4 shows the outcomes for recruits promised A-school for a specific rating. Table 5 shows outcomes for recruits accessed as Airmen, Seamen, and Firemen (Gendets). Table 6 shows the outcomes for recruits accessed in programs that promise A-school but do not specify schooling for one specific rating.

Table 5. Recruits promised A-school for a specific rating

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Aviation Boatswain's Mate - Launching and Recovery Eqipment (ABE)						
Promised	170	178	131	204	683	
Bootcamp loss	18	25	20	29	92	13.5
Rated ABE	145	142	103	126	516	75.5
Rated, other	3	8	5	26	42	6.1
Left Navy after BC (as gendet)	4	3	3	7	17	2.5
Still gendet	0	0	0	16	16	2.3
Aviation Boatswain's Mate - Fuels (ABF)						
Promised	139	140	134	150	563	
Bootcamp loss	23	23	28	21	95	16.9
Rated ABF	112	113	91	112	428	76.0
Rated, other	2	2	3	6	13	2.3
Left Navy after BC (as gendet)	2	2	10	7	21	3.7
Still gendet	0	0	2	4	6	1.1
Aviation Boatswain's Mate - Aircraft Handling (ABH)						
Promised	132	187	119	132	570	
Bootcamp loss	9	24	18	18	69	12.1
Rated ABH	114	153	92	103	462	81.1
Rated, other	5	6	5	4	20	3.5
Left Navy after BC (as gendet)	4	4	3	5	16	2.8
Still gendet	0	0	1	2	3	0.5
Air Traffic Controller (AC)						
Promised	326	339	335	300	1,300	
Bootcamp loss	26	28	35	27	116	8.9
Rated AC	231	244	219	199	893	68.7
Rated, other	48	42	40	31	161	12.4
Left Navy after BC (as gendet)	19	16	22	13	70	5.4
Still gendet	2	7	19	27	55	4.2
Still in school[b]	0	2	0	3	5	0.4
Aviation Machinist's Mate (AD)						
Promised	584	419	425	580	2,008	
Bootcamp loss	62	39	58	59	218	10.9
Rated AD	501	355	328	476	1,660	82.7
Rated, other	4	8	10	6	28	1.4
Left Navy after BC (as gendet)	17	14	16	16	63	3.1
Still gendet	0	3	13	23	39	1.9
Aviation Electrician's Mate (AE)						
Promised	284	248	452	790	1,774	
Bootcamp loss	16	19	48	101	184	10.4
Rated AE	211	197	344	538	1,290	72.7
Rated, other	20	13	18	24	75	4.2
Left Navy after BC (as gendet)	37	18	31	76	162	9.1
Still gendet	0	1	10	49	60	3.4
Still in school	0	0	1	2	3	0.2
Aerographer's Mate (AG)						
Promised	184	187	98	129	598	
Bootcamp loss	15	23	10	12	60	10.0
Rated AG	154	146	79	100	479	80.1
Rated, other	6	8	5	8	27	4.5
Left Navy after BC (as gendet)	9	10	3	5	27	4.5
Still gendet	0	0	1	4	5	0.8

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Aviation Storekeeper (AK)						
Promised	349	268	184	218	1,019	
Bootcamp loss	47	48	35	32	162	15.9
Rated AK	266	206	130	176	778	76.3
Rated, other	3	4	5	2	14	1.4
Left Navy after BC (as gendet)	33	10	13	8	64	6.3
Still gendet	0	0	1	0	1	0.1
Aviation Structural Mechanic - Safety Equipment (AME)						
Promised	212	107	93	156	568	
Bootcamp loss	18	14	16	21	69	12.1
Rated AME	180	88	74	92	434	76.4
Rated, other	6	1	3	9	19	3.3
Left Navy after BC (as gendet)	8	4	0	11	23	4.0
Still gendet	0	0	0	23	23	4.0
Aviation Structural Mechanic - Hydraulics (AMH)						
Promised	322	183	170	180	855	
Bootcamp loss	39	23	24	26	112	13.1
Rated AMH	256	152	131	134	673	78.7
Rated, other	7	5	7	7	26	3.0
Left Navy after BC (as gendet)	20	3	5	7	35	4.1
Still gendet	0	0	3	6	9	1.1
Aviation Structural Mechanic - Structures (AMS)						
Promised	627	327	405	578	1,937	
Bootcamp loss	55	32	55	77	219	11.3
Rated AMS	535	277	326	455	1,593	82.2
Rated, other	6	7	10	7	30	1.5
Left Navy after BC (as gendet)	31	10	11	12	64	3.3
Still gendet	0	1	3	25	29	1.5
Still in school	0	0	0	2	2	0.1
Aviation Ordnanceman (AO)						
Promised	701	516	590	553	2,360	
Bootcamp loss	85	67	76	74	302	12.8
Rated AO	578	413	456	416	1,863	78.9
Rated, other	7	15	16	18	56	2.4
Left Navy after BC (as gendet)	31	20	27	18	96	4.1
Still gendet	0	1	12	27	40	1.7
Still in school	0	0	3	0	3	0.1
Aviation Support Equipment Technician (AS)						
Promised	225	134	153	179	691	
Bootcamp loss	26	16	29	22	93	13.5
Rated AS	191	105	104	127	527	76.3
Rated, other	2	1	3	3	9	1.3
Left Navy after BC (as gendet)	5	11	10	12	38	5.5
Still gendet	1	1	7	14	23	3.3
Still in school	0	0	0	1	1	0.1
Aviation Electronics Technician (AT)						
Promised	957	1,115	918	1,281	4,271	
Bootcamp loss	61	87	92	125	365	8.5
Rated AT	809	890	683	830	3,212	75.2
Rated, other	29	56	41	29	155	3.6
Left Navy after BC (as gendet)	56	75	74	106	311	7.3
Still gendet	2	7	26	186	221	5.2
Still in school	0	0	2	5	7	0.2

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Aviation Maintenance Administrationman (AZ)						
Promised	197	243	1 87	284	9 11	
Bootcamp loss	27	33	29	41	1 30	14.3
Rated AZ	1 57	195	1 47	235	734	80.6
Rated, other	6	1	3	2	12	1.3
Left Navy after BC (as gendet)	7	13	7	4	31	3.4
Still gendet	0	1	0	2	3	0.3
Still in school	0	0	1	0	1	0.1
Boiler Technician (BT)						
Promised	2 17	4 09	192	165	983	
Bootcamp loss	25	51	30	28	134	1 3.6
Rated BT	164	298	128	67	657	66.8
Rated, other	10	19	13	42	84	8.5
Left Navy after BC (as gendet)	18	31	10	13	72	7.3
Still gendet	0	10	11	15	36	3.7
Builder (BU)						
Promised	314	229	344	271	1,158	
Bootcamp loss	34	28	37	30	129	11.1
Rated BU	258	182	285	220	945	81.6
Rated, other	2	2	7	4	15	1.3
Left Navy after BC (as gendet)	19	16	13	12	60	5.2
Still gendet	1	1	2	5	9	0.8
Construction Electrician (CE)						
Promised	136	95	78	1 05	414	
Bootcamp loss	10	6	9	14	39	9.4
Rated CE	1 04	64	59	55	282	6 8.1
Rated, other	11	14	7	15	47	1 1.4
Left Navy after BC (as gendet)	11	7	2	5	25	6.0
Still gendet	0	3	1	16	20	4.8
Still in school	0	1	0	0	1	0.2
Construction Mechanic (CM)						
Promised	1 11	1 12	175	2 31	629	
Bootcamp loss	14	11	31	24	80	12.7
Rated CM	85	92	127	1 83	487	77.4
Rated, other	3	1	4	1	9	1.4
Left Navy after BC (as gendet)	9	8	12	14	43	6.8
Still gendet	0	0	1	9	10	1.6
Cryptologic Technician - Administration (CTA)						
Promised	74	53	120	125	372	
Bootcamp loss	10	4	15	14	43	11.6
Rated CTA	51	43	80	83	257	69.1
Rated, other	11	6	19	14	50	13.4
Left Navy after BC (as gendet)	2	0	5	3	10	2.7
Still gendet	0	0	1	11	12	3.2
Cryptologic Technician - Interpreter/ Linguist (CTI)[c]						
Promised	220	138	15 1	1 93	702	
Bootcamp loss	18	4	18	19	59	8.4
Rated CTI	1 65	103	99	46	413	58.8
Rated, other	18	17	18	22	75	10.7
Left Navy after BC (as gendet)	19	12	16	13	60	8.5
Still gendet	0	2	0	14	16	2.3
Still in school	0	0	0	79	79	11.3

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Cryptologic Technician - Maintenance (CTM)						
Promised	115	107	183	174	579	
Bootcamp loss	6	12	27	12	57	9.8
Rated CTM	86	73	113	121	393	67.9
Rated, other	14	9	28	22	73	12.6
Left Navy after BC (as gendet)	9	10	13	12	44	7.6
Still gendet	0	3	2	4	9	1.6
Still in school	0	0	0	3	3	0.5
Cryptologic Technician - Communications (CTO)						
Promised	248	190	182	175	795	
Bootcamp loss	16	13	18	24	71	8.9
Rated CTO	208	156	124	111	599	75.3
Rated, other	15	15	31	23	84	10.6
Left Navy after BC (as gendet)	8	5	8	6	27	3.4
Still gendet	1	1	0	10	12	1.5
Still in school	0	0	1	1	2	0.3
Cryptologic Technician - Collection (CTR)[d]						
Promised	510	146	180	408	1,244	
Bootcamp loss	59	13	24	47	143	11.5
Rated CTR	314	99	107	235	755	60.7
Rated, other	108	23	39	64	234	18.8
Left Navy after BC (as gendet)	29	8	9	27	73	5.9
Still gendet	0	3	1	27	31	2.5
Still in school	0	0	0	8	8	0.6
Cryptologic Technician - Technical (CTT)						
Promised	123	93	39	116	371	
Bootcamp loss	8	8	7	13	36	9.7
Rated CTT	97	71	28	74	270	72.8
Rated, other	10	5	3	21	39	10.5
Left Navy after BC (as gendet)	8	9	1	3	21	5.7
Still gendet	0	0	0	5	5	1.3
Damage Controlman (DC)						
Promised	332	335	342	386	1,395	
Bootcamp loss	38	42	36	58	174	12.5
Rated DC	276	281	291	253	1,101	78.9
Rated, other	4	3	3	4	14	1.0
Left Navy after BC (as gendet)	14	9	12	38	73	5.2
Still gendet	0	0	0	32	32	2.3
Still in school	0	0	0	1	1	0.1
Disbursing Clerk (DK)						
Promised	164	132	136	138	570	
Bootcamp loss	12	20	18	17	67	11.8
Rated DK	139	103	111	117	470	82.5
Rated, other	3	3	2	3	11	1.9
Left Navy after BC (as gendet)	8	6	4	0	18	3.2
Still gendet	2	0	1	1	4	0.7
Data Processing Technician (DP)						
Promised	112	270	225	4	611	
Bootcamp loss	8	34	27	2	71	11.6
Rated DP	100	224	129	0	453	74.1
Rated, other	1	2	60	2	65	10.6
Left Navy after BC (as gendet)	3	8	7	0	18	2.9
Still gendet	0	2	2	0	4	0.7

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Data Systems Technician (DS)						
Promised	193	63	155	32	443	
Bootcamp loss	16	5	19	2	42	9.5
Rated DS	160	52	82	10	304	68.6
Rated, other	6	4	22	13	45	10.2
Left Navy after BC (as gendet)	11	2	25	5	43	9.7
Still gendet	0	0	7	2	9	2.0
Dental Technician (DT)						
Promised	435	489	307	83	1,314	
Bootcamp loss	36	50	39	7	132	10.0
Rated DT	351	390	234	66	1,041	79.2
Rated, other	11	10	3	1	25	1.9
Left Navy after BC (as gendet)	35	28	21	5	89	6.8
Still gendet	1	11	9	4	25	1.9
Still in school	1	0	1	0	2	0.2
Engineering Aid (EA)						
Promised	20	15	35	31	101	
Bootcamp loss	1	1	5	2	9	8.9
Rated EA	19	14	30	21	84	83.2
Rated, other	0	0	0	6	6	5.9
Left Navy after BC (as gendet)	0	0	0	0	0	0.0
Still gendet	0	0	0	2	2	2.0
Electrician's Mate (EM)						
Promised	324	332	468	461	1,585	
Bootcamp loss	38	37	43	47	165	10.4
Rated EM	259	252	338	242	1,091	68.8
Rated, other	6	8	10	3	27	1.7
Left Navy after BC (as gendet)	21	28	48	61	158	10.0
Still gendet	0	7	28	107	142	9.0
Still in school	0	0	1	1	2	0.1
Engineman (EN)						
Promised	422	261	492	636	1,811	
Bootcamp loss	47	36	62	98	243	13.4
Rated EN	338	203	352	414	1,307	72.2
Rated, other	7	3	12	5	27	1.5
Left Navy after BC (as gendet)	29	18	38	71	156	8.6
Still gendet	1	1	27	48	77	4.3
Still in school	0	0	1	0	1	0.1
Equipment Operator (EO)						
Promised	154	122	209	227	712	
Bootcamp loss	13	17	31	35	96	13.5
Rated EO	133	97	165	175	570	80.1
Rated, other	4	6	3	3	16	2.2
Left Navy after BC (as gendet)	4	2	8	5	19	2.7
Still gendet	0	0	2	8	10	1.4
Still in school	0	0	0	1	1	0.1

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Electronics Technician (ET)[e]						
Promised	581	800	1,050	533	2,964	
Bootcamp loss	19	63	116	67	265	8.9
Rated ET	407	542	546	345	1,840	62.1
Rated, other	57	58	162	31	308	10.4
Left Navy after BC (as gendet)	95	118	171	54	438	14.8
Still gendet	2	19	50	31	102	3.4
Still in school	1	0	5	5	11	0.4
Electronics Warfare Technician (EW)						
Promised	276	249	245	316	1,086	
Bootcamp loss	23	15	27	30	95	8.7
Rated EW	201	188	179	208	776	71.5
Rated, other	17	11	10	15	53	4.9
Left Navy after BC (as gendet)	34	34	24	25	117	10.8
Still gendet	1	1	5	9	16	1.5
Still in school	0	0	0	29	29	2.7
Fire Control Technician (FC)						
Promised	566	544	757	90	1,957	
Bootcamp loss	49	45	76	7	177	9.0
Rated FC	389	408	474	48	1,319	67.4
Rated, other	41	11	47	18	117	6.0
Left Navy after BC (as gendet)	86	73	113	12	284	14.5
Still gendet	1	7	47	5	60	3.1
Fire Control Technician (FT)						
Promised	5	0	21	135	161	
Bootcamp loss	0	0	4	12	16	9.9
Rated FT	4	0	9	88	101	62.7
Rated, other	1	0	2	3	6	3.7
Left Navy after BC (as gendet)	0	0	5	15	20	12.4
Still gendet	0	0	0	9	9	5.6
Still in school	0	0	1	8	9	5.6
Fire Control Technician Gun Fire Control (FTG)						
Promised	47	117	62	0	226	
Bootcamp loss	8	13	11	0	32	14.2
Rated FTG	1	0	0	0	1	0.4
Rated FT	21	71	38	0	130	57.5
Rated, other	13	17	6	0	36	15.9
Left Navy after BC (as gendet)	4	15	5	0	24	10.6
Still gendet	0	1	2	0	3	1.3
Gunner's Mate (GM)						
Promised	304	490	404	339	1,537	
Bootcamp loss	30	70	46	45	191	12.4
Rated GM	0	0	0	0	0	0.0
Rated GMG	185	315	170	136	806	52.4
Rated GMM	31	36	103	84	254	16.5
Rated, other	13	14	14	11	52	3.4
Left Navy after BC (as gendet)	43	48	53	40	184	12.0
Still gendet	2	7	18	22	49	3.2
Still in school	0	0	0	1	1	0.1

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Gas Turbine Systems Technician - Electrical (GSE)						
Promised	214	79	210	356	859	
Bootcamp loss	20	8	22	38	88	10.2
Rated GSE	153	60	149	248	610	71.0
Rated, other	14	3	11	6	34	4.0
Left Navy after BC (as gendet)	26	7	22	32	87	10.1
Still gendet	1	1	6	30	38	4.4
Still in school	0	0	0	2	2	0.2
Gas Turbine Systems Technician - Mechanical (GSM)						
Promised	439	251	332	423	1,445	
Bootcamp loss	36	26	43	54	159	11.0
Rated GSM	338	189	242	313	1,082	74.9
Rated, other	15	10	11	4	40	2.8
Left Navy after BC (as gendet)	49	17	25	37	128	8.9
Still gendet	1	9	11	14	35	2.4
Still in school	0	0	0	1	1	0.1
Hospital Corpsman (HM)						
Promised	3,294	3,288	2,751	2,044	11,377	
Bootcamp loss	265	294	276	185	1,020	9.0
Rated HM	2,794	2,683	2,221	1,581	9,279	81.6
Rated, other	70	62	38	62	232	2.0
Left Navy after BC (as gendet)	154	195	134	78	561	4.9
Still gendet	11	53	76	131	271	2.4
Still in school	0	1	6	7	14	0.1
Hull Maintenance Technician (HT)						
Promised	580	716	163	254	1,713	
Bootcamp loss	72	107	23	42	244	14.2
Rated HT	481	577	120	181	1,359	79.3
Rated, other	6	8	11	6	31	1.8
Left Navy after BC (as gendet)	21	23	9	19	72	4.2
Still gendet	0	1	0	5	6	0.4
Still in school	0	0	0	1	1	0.1
Interior Communications Electrician (IC)[e]						
Promised	602	483	415	341	1,841	
Bootcamp loss	78	50	52	48	228	12.4
Rated IC	475	351	304	164	1,294	70.3
Rated, other	12	21	5	42	80	4.3
Left Navy after BC (as gendet)	36	53	42	37	168	9.1
Still gendet	0	8	11	49	68	3.7
Still in school	1	0	1	1	3	0.2
Instrumentman (IM)						
Promised	44	22	23	8	97	
Bootcamp loss	3	2	3	0	8	8.2
Rated IM	40	18	16	7	81	83.5
Rated, other	0	1	1	1	3	3.1
Left Navy after BC (as gendet)	1	1	2	0	4	4.1
Still gendet	0	0	1	0	1	1.0

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Intelligence Specialist (IS)						
Promised	203	276	235	194	908	
Bootcamp loss	15	20	21	14	70	7.7
Rated IS	146	183	142	113	584	64.3
Rated, other	25	40	44	37	146	16.1
Left Navy after BC (as gendet)	17	24	15	8	64	7.0
Still gendet	0	8	12	21	41	4.5
Still in school	0	1	1	1	3	0.3
Journalist (JO)						
Promised	76	81	43	92	292	
Bootcamp loss	9	8	3	13	33	11.3
Rated JO	47	52	30	63	192	65.8
Rated, other	11	10	4	1	26	8.9
Left Navy after BC (as gendet)	9	9	6	9	33	11.3
Still gendet	0	2	0	6	8	2.7
Lithographer (LI)						
Promised	14	27	16	28	85	
Bootcamp loss	3	3	4	1	11	12.9
Rated LI	9	24	11	24	68	80.0
Rated, other	0	0	1	0	1	1.2
Left Navy after BC (as gendet)	2	0	0	0	2	2.4
Still gendet	0	0	0	3	3	3.5
Molder (ML)						
Promised	15	6	8	2	31	
Bootcamp loss	2	1	5	0	8	25.8
Rated ML	11	4	3	0	18	58.1
Rated, other	2	0	0	1	3	9.7
Left Navy after BC (as gendet)	0	1	0	0	1	3.2
Still gendet	0	0	0	1	1	3.2
Machinist's Mate (MM)						
Promised	803	458	616	808	2,685	
Bootcamp loss	83	42	78	100	303	11.3
Rated MM	598	323	403	534	1,858	69.2
Rated, other	54	41	52	29	176	6.6
Left Navy after BC (as gendet)	68	45	50	67	230	8.6
Still gendet	0	7	32	76	115	4.3
Still in school	0	0	1	2	3	0.1
Coded (MMS)[†]						
Promised	173	83	116	380	752	
Bootcamp loss	16	15	21	51	103	13.7
Rated MM	19	0	0	194	213	28.3
Rated MS	118	62	83	27	290	38.6
Rated, other	4	1	4	11	20	2.7
Left Navy after BC (as gendet)	16	5	5	39	65	8.6
Still gendet	0	0	3	58	61	8.1
Mineman (MN)						
Promised	32	37	35	58	162	
Bootcamp loss	5	8	7	11	31	19.1
Rated MN	23	24	24	37	108	66.7
Rated, other	1	0	0	0	1	0.6
Left Navy after BC (as gendet)	3	5	2	2	12	7.4
Still gendet	0	0	2	8	10	6.2

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Machinery Repairman (MR)						
Promised	138	118	156	38	450	
Bootcamp loss	18	15	19	3	55	12.2
Rated MR	111	99	124	28	362	80.4
Rated, other	1	2	3	2	8	1.8
Left Navy after BC (as gendet)	8	2	5	3	18	4.0
Still gendet	0	0	5	2	7	1.6
Mess Management Specialist (MS)						
Promised	1,330	1,310	755	776	4,171	
Bootcamp loss	230	219	138	118	705	16.9
Rated MS	1,039	1,014	591	533	3,177	76.2
Rated, other	2	4	10	5	21	0.5
Left Navy after BC (as gendet)	58	72	14	29	173	4.1
Still gendet	1	1	2	91	95	2.3
Coded (MSS)[g]						
Promised	282	119	260	186	847	
Bootcamp loss	31	11	34	26	102	12.0
Rated MM	213	90	180	55	538	63.5
Rated MS	2	0	2	57	61	7.2
Rated, other	9	11	11	6	37	4.4
Left Navy after BC (as gendet)	27	5	21	21	74	8.7
Still gendet	0	2	12	21	35	4.1
Missile Technician (MT)						
Promised	43	82	80	125	330	
Bootcamp loss	5	11	6	14	36	10.9
Rated MT	26	44	52	89	211	63.9
Rated, other	8	16	12	8	44	13.3
Left Navy after BC (as gendet)	4	8	8	12	32	9.7
Still gendet	0	3	2	2	7	2.1
Musician (MU)						
Promised	69	24	25	33	151	
Bootcamp loss	1	0	1	0	2	1.3
Rated MU	63	21	23	27	134	88.7
Rated, other	3	2	0	0	5	3.3
Left Navy after BC (as gendet)	2	1	1	0	4	2.6
Still gendet	0	0	0	6	6	4.0
Opticalman (OM)						
Promised	16	34	25	6	81	
Bootcamp loss	0	1	2	0	3	3.7
Rated OM	15	30	22	4	71	87.7
Rated, other	0	0	0	0	0	0.0
Left Navy after BC (as gendet)	1	3	1	1	6	7.4
Still gendet	0	0	0	1	1	1.2
Operations Specialist (OS)						
Promised	1,449	1,080	997	1,075	4,601	
Bootcamp loss	137	112	115	107	471	10.2
Rated OS	1,226	857	785	882	3,750	81.5
Rated, other	23	25	27	19	94	2.0
Left Navy after BC (as gendet)	63	76	47	39	225	4.9
Still gendet	0	10	23	28	61	1.3

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Postal Clerk (PC)						
Promised	59	83	79	59	280	
Bootcamp loss	8	11	13	7	39	13.9
Rated PC	50	68	63	45	226	80.7
Rated, other	0	2	3	1	6	2.1
Left Navy after BC (as gendet)	1	2	0	2	5	1.8
Still gendet	0	0	0	4	4	1.4
Photographer's Mate (PH)						
Promised	121	139	102	50	412	
Bootcamp loss	12	14	17	9	52	12.6
Rated PH	98	112	70	36	316	76.7
Rated, other	0	2	4	0	6	1.5
Left Navy after BC (as gendet)	11	10	6	2	29	7.0
Still gendet	0	1	5	3	9	2.2
Pattern Maker (PM)						
Promised	29	3	8	6	46	
Bootcamp loss	5	0	1	1	7	15.2
Rated PM	21	3	5	0	29	63.0
Rated, other	1	0	1	4	6	13.0
Left Navy after BC (as gendet)	2	0	0	1	3	6.5
Still gendet	0	0	1	0	1	2.2
Personnelman (PN)						
Promised	306	219	493	275	1,293	
Bootcamp loss	29	21	61	25	136	10.5
Rated PN	235	181	386	236	1,038	80.3
Rated, other	7	5	15	4	31	2.4
Left Navy after BC (as gendet)	34	12	29	7	82	6.3
Still gendet	1	0	2	2	5	0.4
Still in school	0	0	0	1	1	0.1
Parachute Rigger/Aircrew Survival Equipmentman (PR)						
Promised	183	201	113	157	654	
Bootcamp loss	22	22	13	19	76	11.6
Rated PR	152	167	91	123	533	81.5
Rated, other	0	2	3	2	7	1.1
Left Navy after BC (as gendet)	8	10	4	3	25	3.8
Still gendet	1	0	2	9	12	1.8
Still in school	0	0	0	1	1	0.2
Quartermaster (QM)[e]						
Promised	195	240	202	79	716	
Bootcamp loss	19	23	19	14	75	10.5
Rated QM	148	192	157	62	559	78.1
Rated, other	10	3	9	2	24	3.4
Left Navy after BC (as gendet)	17	18	11	1	47	6.6
Still gendet	1	4	6	0	11	1.5
Radioman (RM)[e]						
Promised	529	862	1,091	1,038	3,520	
Bootcamp loss	68	128	168	151	515	14.6
Rated RM	399	604	834	768	2,605	74.0
Rated, other	17	40	20	28	105	3.0
Left Navy after BC (as gendet)	44	74	51	54	223	6.3
Still gendet	1	16	17	37	71	2.0
Still in school	0	0	1	0	1	0.0

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Religious Program Specialist (RP)						
Promised	53	139	78	45	315	
Bootcamp loss	5	17	9	3	34	10.8
Rated RP	45	99	53	36	233	74.0
Rated, other	1	14	13	2	30	9.5
Left Navy after BC (as gendet)	2	7	2	2	13	4.1
Still gendet	0	2	1	2	5	1.6
Ship's Serviceman (SH)						
Promised	395	180	329	158	1,062	
Bootcamp loss	61	22	69	14	166	15.6
Rated SH	312	152	251	135	850	80.0
Rated, other	4	3	4	0	11	1.0
Left Navy after BC (as gendet)	18	3	5	6	32	3.0
Still gendet	0	0	0	3	3	0.3
Storekeeper (SK)[e]						
Promised	539	343	350	409	1,641	
Bootcamp loss	64	44	50	60	218	13.3
Rated SK	438	283	262	339	1,322	80.6
Rated, other	7	4	9	2	22	1.3
Left Navy after BC (as gendet)	30	11	24	4	69	4.2
Still gendet	0	1	5	4	10	0.6
Signalman (SM)						
Promised	225	140	209	165	739	
Bootcamp loss	31	20	32	21	104	14.1
Rated SM	182	114	158	117	571	77.3
Rated, other	5	0	3	11	19	2.6
Left Navy after BC (as gendet)	6	5	11	6	28	3.8
Still gendet	1	1	5	10	17	2.3
Sonar Technician- Surface (STG)						
Promised	383	345	277	361	1,366	
Bootcamp loss	36	25	32	37	130	9.5
Rated STG	333	305	229	305	1,172	85.8
Rated, other	4	8	12	8	32	2.3
Left Navy after BC (as gendet)	10	6	3	2	21	1.5
Still gendet	0	1	1	6	8	0.6
Still in school	0	0	0	3	3	0.2
Sonar Technician- Submarine (STS)						
Promised	135	354	310	522	1,321	
Bootcamp loss	11	42	42	62	157	11.9
Rated STS	91	257	207	341	896	67.8
Rated, other	12	21	21	29	83	6.3
Left Navy after BC (as gendet)	21	32	29	45	127	9.6
Still gendet	0	2	10	43	55	4.2
Still in school	0	0	1	2	3	0.2
Steelworker (SW)						
Promised	88	93	70	79	330	
Bootcamp loss	16	17	10	12	55	16.7
Rated SW	68	71	54	62	255	77.3
Rated, other	0	1	2	1	4	1.2
Left Navy after BC (as gendet)	4	4	4	4	16	4.8
Still gendet	0	0	0	0	0	0.0

Table 5. Recruits promised A-school for a specific rating (continued)

Rating[a]	FY of accession 93	94	95	96	Total (all years)	Percentage of total rating
Torpedoman (TM)[e]						
Promised	322	435	212	175	1,144	
Bootcamp loss	30	52	32	23	137	12.0
Rated TM	266	345	122	83	816	71.3
Rated, other	12	21	26	34	93	8.1
Left Navy after BC (as gendet)	14	14	22	12	62	5.4
Still gendet	0	3	10	23	36	3.1
Utilitiesman (UT)						
Promised	126	73	57	150	406	
Bootcamp loss	20	7	4	21	52	12.8
Rated UT	99	61	51	110	321	79.1
Rated, other	0	1	0	0	1	0.2
Left Navy after BC (as gendet)	7	4	1	4	16	3.9
Still gendet	0	0	1	15	16	3.9
Yeoman (YN)[e]						
Promised	758	736	860	485	2,839	
Bootcamp loss	89	80	134	35	338	11.9
Rated YN	627	606	671	423	2,327	82.0
Rated, other	8	8	14	7	37	1.3
Left Navy after BC (as gendet)	33	36	35	14	118	4.2
Still gendet	0	6	6	6	18	0.6
Still in school	1	0	0	0	1	0.0

a. Rating SAE disappears after FY93. Ratings AW, BM, FS, OTA, and OTM disappear after FY 94. Accordingly, they have been omitted from this chart.
b. This category is included only when relevant.
c. The rating promised is listed as CT1 and CT2 in the PRIDE data and was collapsed into this rating.
d. The rating promised is listed as CT* in the PRIDE data.
e. The submarine categories have been included (e.g., recruits promised ETS) who got rated in the parent rating are categorized as rated as promised. This includes submariners in ratings ET, IC, QM, RM, SK, TM, and YN. It should also include ratings MM and MS but those data fields contain erroneous data.
f. This should be the Traintrack code for MM (submarine); however, most of these recruits are rated MS. This field has been confused with MS (submarine). In brief, these codes contain erroneous data.
g. The coding implies these recruits are promised MS (submarine). Most, however, are rated MM. The codes MSS and MMS contain erroneous entries.

Table 6. Recruits accessed as Airmen, Seaman, or Firemen (Gendets) and Subfarers[a]

Rating	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Airmen (AN)						
Number	6,681	6,751	7,029	4,739	25,200	
Bootcamp loss	808	1,051	1,140	694	3,693	14.7
Rated	3,277	2,890	2,131	1,019	9,317	37.0
Left Navy after BC (as gendet)	2,536	2,283	1,255	484	6,558	26.0
Still gendet	58	493	2,465	2,533	5,549	22.0
Still in school	2	34	38	9	83	0.3
Firemen (FN)						
Number	7,394	5,042	2,134	2,948	17,518	
Bootcamp loss	1,239	874	376	467	2,956	16.9
Rated	2,849	1,934	584	632	5,999	34.2
Left Navy after BC (as gendet)	3,197	1,854	389	380	5,820	33.2
Still gendet	99	359	778	1,457	2,693	15.4
Still in school	10	21	7	12	50	0.3
Seamen (SN)						
Number	15,07	11,49	7,398	5,460	39,418	
Bootcamp loss	2,260	1,869	1,210	778	6,117	15.5
Rated	6,344	4,217	1,946	1,159	13,666	34.7
Left Navy after BC (as gendet)	6,269	4,288	1,430	629	12,616	32.0
Still gendet	182	1,035	2,737	2,851	6,805	17.3
Still in school	15	81	75	43	214	0.5
Subfarer (SS)						
Promised	265	330	557	558	1,710	
Bootcamp loss	52	41	102	79	274	16.0
Rated ET	10	25	40	20	95	5.6
Rated MM	14	44	26	17	101	5.9
Rated STS	2	12	34	13	61	3.6
Rated TM	27	16	9	4	56	3.3
Rated, other	85	89	81	57	312	18.2
Left Navy after BC (as gendet)	73	84	118	111	386	22.6
Still gendet	2	18	135	255	410	24.0
Still in school	0	1	12	2	15	0.9

a. Subfarers are gendets who will receive submarine training. They are not promised any A-school.

Table 7. Recruits accessed through programs that promise A-school but not a specific rating

Program	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
Adv'd Electr/Comp Field (AEC)						
Number	34	11	15	2,295	2,355	
Bootcamp loss	0	0	2	243	245	10.4
Rated DS	2	2	2	202	208	8.8
Rated ET	6	1	1	460	468	19.9
Rated FC	2	1	3	598	604	25.6
Rated, other	12	6	1	45	64	2.7
Left Navy after BC (as gendet)	12	1	6	316	335	14.2
Still gendet	0	0	0	170	170	7.2
Still in school	0	0	0	261	261	11.1
Aircrew (AIC)						
Number	75	91	16	687	869	
Bootcamp loss	4	10	1	80	95	10.9
Rated AD	7	5	0	38	50	5.8
Rated AE	3	6	1	32	42	4.8
Rated AME	0	0	0	5	5	0.6
Rated AMH	1	4	0	10	15	1.7
Rated AMS	1	2	1	33	37	4.3
Rated AO	4	3	0	13	20	2.3
Rated AT	5	6	1	71	83	9.6
Rated AW	14	14	5	149	182	20.9
Rated, other	25	32	4	101	162	18.6
Left Navy after BC (as gendet)	11	4	2	61	78	9.0
Still gendet	0	5	1	74	80	9.2
Still in school	0	0	0	20	20	2.3
Air rescue (AIR)						
Number	492	870	1,369	350	3,081	
Bootcamp loss	53	92	159	44	348	11.3
Rated ABH	9	32	21	0	62	2.0
Rated AD	14	37	56	18	125	4.1
Rated AE	24	52	66	16	158	5.1
Rated AMH	11	19	18	4	52	1.7
Rated AMS	21	22	28	4	75	2.4
Rated AO	23	33	58	17	131	4.3
Rated AT	29	62	68	30	189	6.1
Rated AW	137	171	171	64	543	17.6
Rated HM	17	33	71	13	134	4.3
Rated, other	99	173	367	81	720	23.4
Left Navy after BC (as gendet)	53	121	166	26	366	11.9
Still gendet	2	22	112	30	166	5.4
Still in school	0	1	8	3	12	0.4
Diver program (DIV)						
Number	132	0	0	0	132	
Bootcamp loss	26	0	0	0	26	19.7
Rated HT	28	0	0	0	28	21.2
Rated PH	16	0	0	0	16	12.1
Rated, other	54	0	0	0	54	40.9
Left Navy after BC (as gendet)	8	0	0	0	8	6.1
Still gendet	0	0	0	0	0	0.0

Table 7. Recruits accessed through programs that promise A-school but not a specific rating (continued)

Program	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
NF[a]						
Number	2,942	2,609	2,559	2,888	10,998	
Bootcamp loss	161	143	176	180	660	6.0
Rated EM	707	531	554	685	2,477	22.5
Rated ET	537	489	437	422	1,885	17.1
Rated MM	818	798	772	890	3,278	29.8
Rated, other	413	352	314	301	1,374	12.5
Left Navy after BC (as gendet)	299	255	210	210	974	8.9
Still gendet	5	37	87	128	257	2.3
Still in school	2	4	9	78	93	.8
SPE						
Number	350	142	369	582	1,443	
Bootcamp loss	28	15	40	57	140	9.7
Rated GMG	24	6	19	24	73	5.1
Rated HM	93	74	39	71	277	19.2
Rated IS	23	1	6	28	58	4.0
Rated OS	18	9	31	30	88	6.1
Rated, other	133	24	138	224	519	36.0
Left Navy after BC (as gendet)	29	11	28	43	111	7.7
Still gendet	2	2	60	80	144	10.0
Still in school	0	0	8	25	33	2.3
ST1 (JOBS Engineering)[b]						
Number	247	156	157	205	765	
Bootcamp loss	41	20	22	31	114	14.9
Rated BT	33	6	40	2	81	10.6
Rated DC	17	17	25	16	75	9.8
Rated EN	37	19	5	18	79	10.3
Rated GSM	10	6	11	23	50	6.5
Rated HT	27	30	2	25	84	11.0
Rated MM	18	11	8	15	52	6.8
Rated MR	26	19	4	9	58	7.6
Rated, other	3	8	5	2	18	2.4
Left Navy after BC (as gendet)	35	12	23	28	98	12.8
Still gendet	0	8	12	35	55	7.2
Still in school	0	0	0	1	1	0.1
ST2 (JOBS Operations)[c]						
Number	252	234	227	243	956	
Bootcamp loss	38	24	30	33	125	13.1
Rated CTO	13	13	12	18	56	5.9
Rated CTR	12	13	24	10	59	6.2
Rated CTT	6	19	9	8	42	4.4
Rated IS	32	19	4	13	68	7.1
Rated OS	87	42	63	84	276	28.9
Rated RM	24	41	25	13	103	10.8
Rated, other	18	12	19	14	63	6.6
Left Navy after BC (as gendet)	19	37	32	23	111	11.6
Still gendet	3	13	9	20	45	4.7
Still in school	0	1	0	7	8	0.8

Table 7. Recruits accessed through programs that promise A-school but not a specific rating (continued)

Program	FY of accession				Total (all years)	Percentage of total rating
	93	94	95	96		
ST3 (JOBS Administrative)[d]						
Number	59	69	63	89	280	
Bootcamp loss	12	6	10	11	39	13.9
Rated AK	3	14	8	18	43	15.4
Rated PN	9	4	15	2	30	10.7
Rated SK	8	7	2	12	29	10.4
Rated YN	10	15	6	12	43	15.4
Rated, other	11	17	16	23	67	23.9
Left Navy after BC (as gendet)	6	6	5	7	24	8.6
Still gendet	0	0	1	4	5	1.8
ST4 (JOBS Electronics)[e]						
Number	347	317	297	383	1,344	
Bootcamp loss	47	40	35	70	192	14.3
Rated AT	101	80	74	81	336	25.0
Rated EW	21	25	32	22	100	7.4
Rated STG	29	43	23	19	114	8.5
Rated, other	109	89	75	64	337	25.1
Left Navy after BC (as gendet)	39	34	40	50	163	12.1
Still gendet	1	6	18	46	71	5.3
Still in school	0	0	0	31	31	2.3
ST5 (JOBS Electrical)[f]						
Number	0	0	3	69	72	
Bootcamp loss	0	0	0	11	11	15.3
Rated AE	0	0	1	10	11	15.3
Rated EM	0	0	0	8	8	11.1
Rated, other	0	0	1	13	14	19.4
Left Navy after BC (as gendet)	0	0	1	11	12	16.7
Still gendet	0	0	0	14	14	19.4
Still in school	0	0	0	2	2	2.8
ST6 (JOBS Navigator)[g]						
Number	50	7	0	5	62	
Bootcamp loss	6	1	0	0	7	17.1
Rated IC	8	1	0	0	9	22.0
Rated QM	8	0	0	5	13	31.7
Rated, other	15	3	0	0	18	43.9
Left Navy after BC (as gendet)	13	2	0	0	15	36.6
Still gendet	0	0	0	0	0	0.0
ST7 (JOBS Airframe Mechanic)[h]						
Number	7	1	0	55	63	
Bootcamp loss	0	0	0	8	8	12.7
Rated AMH	0	0	0	11	11	17.5
Rated AMS	0	0	0	14	14	22.2
Rated, other	5	1	0	10	16	25.4
Left Navy after BC (as gendet)	2	0	0	4	6	9.5
Still gendet	0	0	0	8	8	12.7

a. These sailors were guaranteed a program of Nuclear Field (NF) but had a specific rating guarantee field that was blank in the data. We have identified them as a NF guarantee category.
b. JOBS ratings for the engineering strand are BT, EN, GSM, HT, MM, and MR.
c. JOBS ratings for the operations strand are AW, CTO CTR, CTT, IS, OS, and RM.
d. JOBS ratings for the administrative strand are AK, AZ, CTA, DK, PC, PN, SH, SK, and YN.
e. JOBS ratings for the electronics strand are AT, CTM, ET, EW, FC, GMG, GMM, and STG.
f. JOBS ratings for the electrical strand are AE, CE, EM, GSE, and IC.
g. JOBS ratings for the navigator strand are QM and SM. ST8 was merged with ST6 after FY93.
h. JOBS ratings for the airframe mechanic strand are AD, AME, AMH, AMS, AO, AS, and PR.

Appendix D: More detailed information on the outcomes for sailors who fail an A-school course

This appendix contains more detailed information on the outcomes for sailors who fail A-school. Unlike the text of the paper that restricts the analysis to those who failed an A-school course but who were then either reassigned to a different A-school or who made it to full duty in the fleet, the analysis in this appendix starts with all sailors who failed an A-school course.

FY 1993

Our database has 1,366 sailors entering the Navy in FY 1993 with the promise of schooling in a particular rating, who successfully completed bootcamp, and who then failed an A-school course. Of these sailors:

- 354 were academic attrites from A-school[56]
  - — 4 percent left the Navy within 2 months of the A-school class failure
  - — 4 percent left the Navy before reporting to their 1st duty station, but more than 2 months after class failure
  - — 31 percent left the Navy after reporting to a duty station, but with less than 42 months of service. Since all had 4- to 6-year initial contracts, all separations are before completion of the contract
  - — 61 percent completed at least 42 months of service.

56. Bootcamp attrition for all FY 1993 accessions was 13.8 percent. Thus, to get a measure of "first-term" attrition for these recruits, one needs to factor this in. For example, about 411 recruits were required to enter bootcamp (to get the 354 sailors who arrived at A-School and had an academic failure). That makes the 42-month attrition rate for these recruits about 50 percent (215/411). Similar calculations suggest a 42-month attrition rate of almost 90 percent for the non-academic A-School failures.

- 1, 012 were nonacademic attrites from A-school
  - — 54 percent left the Navy within 2 months of the A-school class failure
  - — 17 percent left the Navy before reporting to a duty station, but more than 2 months after class failure
  - — 15 percent left the Navy after reporting to a duty station, but with less than 42 months of service. Since all had 4- to 6-year initial contracts, all separations are before completion of the contract
  - — 14 percent completed at least 42 months of service.

FY 1994

Our database has 1,470 sailors who entered the Navy in FY 1994 with the promise of schooling in a particular rating, who successfully completed bootcamp, and who then failed an A-school course. We can watch all of these FY 1994 sailors for 30 total months of service (this includes the time they have spent in bootcamp and A-school). Of these sailors:

- 480 were academic attrites from A-school
  - — 4 percent left the Navy within 2 months of the A-school class failure
  - — 6 percent left the Navy before reporting to a duty station, but more than 2 months after class failure
  - — 19 percent left the Navy after reporting to a duty station, but with less than 30 months of service.
  - — 71 percent completed at least 30 months of service.
- 990 were nonacademic attrites from A-school
  - — 49 percent left the Navy within 2 months of the A-school class failure
  - — 21 percent left the Navy before reporting to a duty station, but more than 2 months after class failure

— 12 percent left the Navy after reporting to a duty station, but with less than 30 months of service.

— 18 percent completed at least 30 months of service.

FY 1995

Our database has 1,143 sailors who entered the Navy in FY 1995 with the promise of schooling in a particular rating, who successfully completed bootcamp, and who then failed an A-school course. We can watch all of these FY 1995 sailors for 18 total months of service (which includes the time they have spent in bootcamp and A-school). Of these sailors,

- 338 were academic attrites from A-school
  - — 4 percent left the Navy within 2 months of the A-school class failure
  - — 5 percent left the Navy before reporting to a duty station, but more than 2 months after class failure
  - — 10 percent left the Navy after reporting to a duty station, but with less than 18 months of service.
  - — 81 percent completed at least 18 months of service.
- 805 were non-academic attrites from A-school
  - — 47 percent left the Navy within 2 months of the A-school class failure
  - — 20 percent left the Navy before reporting to a duty station, but with less than 18 months of service
  - — 7 percent left the Navy after reporting to a duty station, but with less than 18 months of service
  - — 26 percent completed at least 18 months of service.

These patterns are similar to those observed in the previous year.

Appendix E: Mainframe dataset

This appendix provides a brief description of the Street-to-Fleet Dataset. CNA intends to maintain this dataset on an ongoing basis, and a forthcoming CNA information memorandum will describe it in more detail. The dataset now includes accessions from FY 1993 through FY 1997 and Navy training and personnel data through March 1998. In table 8, we describe each variable, the variable name used in COBOL programs, the variable name used in our SAS programs, the size of the variable, and source of the variable. Variable sources include:

- DMDC (Defense Manpower Data Center accession data)
- Traintrack (Accession data set obtained from CNRC that is based on Navy Recruiting's PRIDE data system)
- ETF (Enlisted Tracking File). This longitudinal file is constructed and maintained by CNA. Derived from quarterly Enlisted Master Record (EMR) files, it contains historical records for all enlisted Navy personnel.
- SMF (Student Master File data from NITRAS II)
- Computed (that is, computed by CNA). Some of these computed variables are permanent, and some are recomputed at each file update.

A small number of observations do not have Traintrack data. These observations are identified by a variable at the beginning of the dataset.

After the SSN and the Traintrack flag variable, we have grouped the variables into the following categories:

- Demographic data
- Enlistment service data

- Enlistment quality data
- Loss data
- ETR full duty data
- Last EMR quarter data
- Schoolhouse data.

We construct a new variable in the enlistment service data section—how the sailor was rated. Figure 20 describes the algorithms used to identify sailors rated by by A-school, by on-the-job training (OJT), and as fleet returnees (A-school after some time in the fleet).

Table 8. Description of data fields in the Street-to-Fleet Dataset

COBOL name	SAS name	Source	Size	Description
SSN	SSN	DMDC	9	Social security number
TRAINTRACK-FLAG	TT_FLG	Traintrack	1	Whether the SSN was found in the Traintrack files. All SSNs must be on both the DMDC and EMR files. 1: Not on Traintrack, no Traintrack data used 2: On Traintrack, but in the wrong time frame - probably a later accession, no Traintrack data used 3: On Traintrack, data used
Demographic data				
SEX	SEX	DMDC	1	0:Unknown 1:Male 2:Female
RACE-ETHNIC	RACE_ETH	DMDC	1	0:Unknown 1:White 2:Black/African American 3:Hispanic 4:Native American/Alaskan 5:Asian/Pacific Islander 6:Other
MARITAL-STATUS	MAR_STAT	DMDC	1	At entry 0:Unknown 1:Single 2:Married
DEPENDENTS	DEPS	DMDC	1	Number of dependents at entry
AGE-ADSD	AGE_ADSD	Computed	2	Age at entry: ADSD minus DOB
Enlistment service data				
RESERVE-SERVICE	RESERVE	DMDC	1	2:Regular Navy 8:Reserve
MEPS	MEPS	DMDC	2	Military Entrance Processing Station, Formerly called Armed Forces Examining & Entrance Station (see AFEES table in a forthcoming CNA information memorandum)
FIRST-EMR-DATE	EMR_1ST	ETF	4	EMR quarter date that the sailor first appears in the file - YYMM
ADSD	ADSD	ETF	4	First active duty service date - YYMM
MONTHS-IN-DEP	DEP_MOS	Computed	2	Months in DEP: ADSD (from EMR) minus DEP date (from DMDC) . 0 if DEP date missing or zero, if negative then zero, if > 12 then 12

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
PEF	PEF	DMDC	5	Program enlisted for. We do not recommend use of this variable.
RATE-PROMISED	RT_PROM	Traintrack	3	Rate promised just prior to bootcamp - L_RATING variable on Traintrack. If blank and enlistment program = NF, then this field is also set to NF.
RATE-PROMISED-TYPE	RT_TYPE	Computed	1	1:Real rating (includes programs leading to a rating) 2:Gendet 3:JOBS 4:Other - e.g. DIV and AIR, most lead to NECs 5: Unknown
ENL-PROGRAM	ENL_PGM	Traintrack	4	Enlistment program - value just prior to bootcamp - L_PGMC variable on Traintrack
ENL-TERM	ENL_TERM	Traintrack	1	Length of enlistment - value just prior to bootcamp - L_TENL variable on Traintrack - is 8 years for reservists
ORIGINAL-YEARS-OBLIGATION	ORIG_YO	Computed	1	Length of active duty first-term contract
PAYGRADE-FIRST	PG_1ST	ETF	1	Paygrade when sailor was first found on a quarterly ETF: 1 - 9 (corresponding to E1 - E9
RATED	RATED	Computed	1	Was the sailor ever rated? 0: No, was always AN, FN, SN, CN, or blank 1: Was rated as some point
FIRST-RATE	RT_1ST	ETF	3	First non-gendet rate received (not AN, FN, SN, or CN) - alphabetic
FIRST-RATE-DATE	RT_DT	ETF	4	EMR quarter date of first non-gendet rating - YYMM
RATE-HOW-GOT	RT_HOW	Computed. Changes with update.	1	0:Never rated 1:A-school 2:OJT (on the job training) 3:Fleet returnee 4:OJT/Fleet returnee (went to fleet, got rated, went to A-school within 6 months of date rated, and rate did not change after A-school) 5: cannot determine
Enlistment quality data				
AFQT	AFQT	DMDC	2	AFQT percentile

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
AFQT-CATEGORY	AFQT_CAT	Computed	1	0:Unknown 1:Cat V, 01-09 2:Cat IV-C, 10-15 3:Cat IV-B, 16-20 4:Cat IV-A, 21-30 5:Cat III-B, 31-49 6:Cat III-A, 50-64 7:Cat II, 65-92 8:Cat I, 93-99
WAIVER-AUTHORITY	WV_AUTH	DMDC	1	From the first digit of DMDC WLEVEL: 0: Not applicable 1:Service department 2:Service recruiting command 3:Service recruiting immediate HQ 4:Service recruiting unit 5:Service recruiting sector, area, or district 6:Service recruiter 7:MEPS
MORAL-WAIVER-TYPE	WV_MORAL	DMDC	1	From the second digit of DMDC WLEVEL: 0:Unknown 1:Minor traffic offenses 2:Minor non-traffic offenses, less than 3 3:Minor non-traffic offenses, 3 or more 4:Other non-minor misdemeanors 5:Felony - adult 6:Felony - juvenile 7:Preservice drug abuse 8:Preservice alcohol abuse 9:Other, not applicable

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
WAIVER	WV	DMDC	2	0:NA 1:Age 2:Number of dependents 3:Mental qualification 4:Moral qualification 5:Previous disqualification 6:Lost time 7:Physical disqual - EPTS 8:Physical disqual9:Sole survivor 10:Education 11:Alien 12:Security risk 13:Conscientious objector 14:Pay grade 15:Skill requirements 16:Predictor requirements 17:Other
WAIVER-GROUP	WV_GRP	Computed	1	From WAIVER 0:No waiver (0) 1:Moral waiver (4) 2:Dependents waiver (2) 3:Physical waiver (7 or 8) 4:Previous disqualification waiver (5) 5:Other waiver (all others)
ED-YEARS	ED_YEARS	ETF	2	Completed years of education as of first EMR 01-12: Grade school and high school grades 13-20:College (1-8 years)
ED-CERT	ED_CERT	ETF	1	For codes, see forthcoming CNA information memorandum
ED-TIER	ED_TIER	ETF	1	1:High school graduate - Ed Cert: 2, 9, A, D, G, K, L, N, P, R, S, U, W - with #2, DoD Tier 1 2:Adult ed, one semester college - Ed Cert: 8, B - with #1, DoD Tier 1 3:Some paper - Ed Cert: 3, 4, 5, 6, 7, C, E, H, J - DoD Tier 2 4:No paper - Ed Cert: 1 - DoD Tier 3 5:Unknown

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
ED-QUAL	ED_QUAL	Computed	1	1:A-cell - AFQT >= 50, ED-TIER 1 or 2 2:B-cell - AFQT >= 50, ED-TIER 3 or 4 3:C-cell upper - AFQT 31-49 inclusive, ED-TIER 1 or 2 4:C-cell lower - AFQT 24-30 inclusive, ED-TIER 1 or 2 5:D-cell - AFQT > 50, ED-TIER 3 or 4 6:Unknown
ACCESSION-QUALITY	QUALITY	Computed	1	Computed from AFQT, Ed cert, DEP 0:Unknown, not able to compute 1:AFQT I-II (65-99), HS grad, DEP 2:AFQT IIIA (50-64), HS grad, DEP 3:AFQT IIIB (49 and below), HS grad, DEP 4:AFQT I-IIIA (50-99), HS grad, direct ship 5:AFQT IIIB (49 and below), HS grad, direct ship 6:All AFQT categories, non-HS grad, DEP 7:All AFQT categories, non-HS grad, direct ship
Loss data				
LOSS-FLAG	LS_FLG	ETF	1	0:still in the Navy as of file date 1:separated
LOSS-DATE	LS_DT	ETF	4	Date of loss from the Navy - YYMM
EAOS-DATE	LS_SEAOS	ETF	4	Soft EAOS date at time of loss or last update
DOD-LOSS-CODE	LS_DODCD	ETF	3	DoD loss code

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
LOSS-CATEGORY	LS_CAT	Computed	2	From DOD-LOSS-CODE, see DoD Loss Code Group table 01: Weight control failure 02: Failed physical 03: Personality 04: Drugs 05: Alcohol 06: Other misconduct 07: Unsat perf 08: Parenthood 09: Homosexual 10: Medical 11: Pregnancy 12: In lieu of Court Martial 13: Hardship 14: Fraudulent entry 15: Early release 16: RIF 17: Reached EAOS 18: VSI, SSB 19: Officer 20: Erroneous entry 21:Other losses
LOSS-ACTIVITY	LS_ACT	ETF	4	4 digit onboard activity code at time of last update or loss
LOSS-UIC	LS_UIC	ETF	5	UIC at time of at time of last update or loss
LOSS-STATUS	LS_STAT	Computed	1	Values 1 through 4 require LOSS-FLAG = 1 1:left from bootcamp (UIC = 30643, 30646, or 31155 and MONTHS-AT-LOSS <= 12) 2:left before full duty (attained Accounting Category code 100 or 106) 3:left before end of original obligation: if MONTHS-SURVIVAL is less than ORIGINAL-YEARS-OBLIGATION (in months) minus 3 months 4:left after original obligation 5:still in the Navy as of file date
ETF full duty data				
FULL-DUTY-FLAG	DUTY_FLG	ETF	1	0:never had ACC of 100 or 106 - never full duty 1:got ACC of 100 or 106 - full duty

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
FULL-DUTY-DATE	DUTY_DT	ETF	4	Date received at first duty station (date received corresponding to first ACC100 or 106) : YYMM
MONTHS-SINCE-FULL-DUTY	DUTY_MOS	Computed	3	Months since attainment of full duty status - FULL-DUTY-DATE to loss date or current date of file
FULL-DUTY-RATING	DUTY_RT	ETF	3	Rating at time of first full duty - alphabetic
FULL-DUTY-SEA-SHORE	DUTY-SS	ETF	1	Sea-shore duty flag at time of first full duty 0: Never got to full duty or unknown 1:Shore duty 2:Sea duty 3:Overseas shore duty 4:Non-rotated sea duty 5:Neutral duty 6:Preferred overseas shore duty 7:Partial sea duty 8:Double sea duty
FULL-DUTY-ACTY	DUTY_ACT	ETF	4	Four digit activity code at time of first full duty
LAST-GOOD-ACC	LG_ACC	ETF	3	Most recent "good" ACC - includes full duty, school, excludes pending separation, disciplinary status - for complete list, see forthcoming CNA information memorandum
LAST-GOOD-ACC-DATE	LGA_DT	ETF	4	EMR quarter date of last good ACC - YYMM
LAST-GOOD-ACC-UIC	LGA_UIC	ETF	5	UIC of last good ACC
LAST-GOOD-ACC-MCA	LGA_MCA	ETF	1	Manning Control Authority (MCA) of last good ACC B: BUPERS P: Pacific Fleet L: Atlantic Fleet R: Reserve X: Other
LAST-GOOD-ACC-MONTHS	LGA_MOS	ETF	3	Months since left last good ACC (0 if currently in a good ACC)
Last EMR quarter data				
MONTHS-SURVIVAL	MOS_SURV	ETF	3	Months of survival - ADSD to loss date or current date of file
LAST-QTR-DATE	LQ_DT	ETF	4	EMR quarter date of first loss or current file if still active
LAST-ACC	LQ_ACC	ETF	3	ACC as of last file update or loss
LAST-RATE	LQ_RT	ETF	3	Rate as of last file update or loss - alphbetic

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

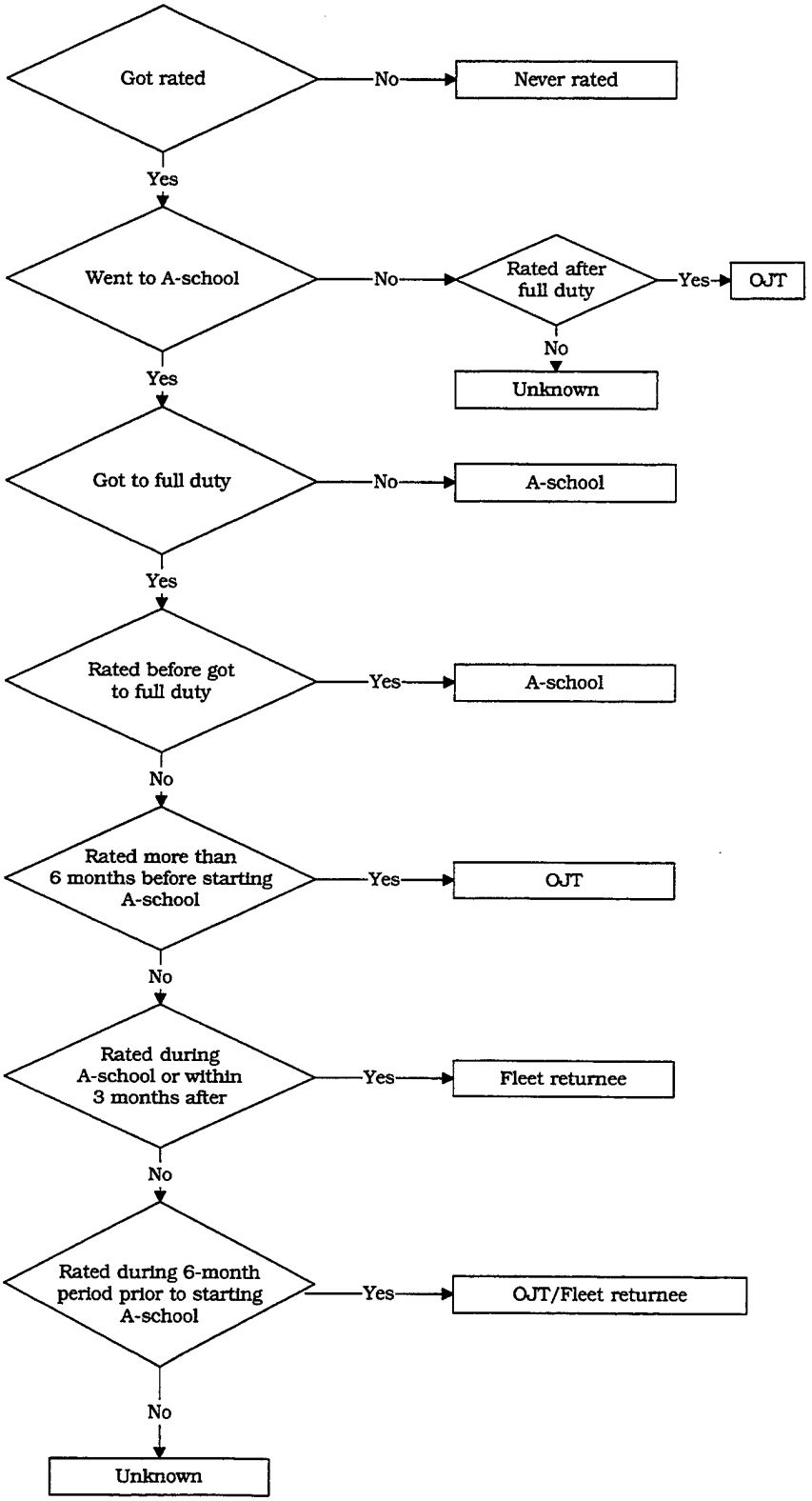
COBOL name	SAS name	Source	Size	Description
LAST-PAYGRADE	LQ_PG	ETF	1	Paygrade on most recent ETF or value at loss
DEMOTIONS	LQ_DEM	Computed	1	Using the paygrade data in the ETF: 0:Never demoted 1:Demoted before full duty only 2:Demoted after full duty only 3:Demoted both before and after full duty
RATE-STATUS	RT_STAT	Computed. Changes with update.	1	Rate attainment status 1:Bootcamp loss (BC UIC and <= 12 mos) 2:Left Navy as gendet 3:Got promised rating - see Rate Promised to Rate Got table - left Navy 4:Got other rating - left Navy 5:Still in school, as gendet (ACC 341 or 342) 6:Still gendet 7:Got promised rating and still in Navy - for complete list see Rate Promised to Rate Got table in forthcoming CNA information memorandum 8:Got other rating - still in Navy
GOT-RATE-PROMISED	GOT_PROM	Computed	1	0: Did not get rate promised 1: Got rate promised - for complete list see Rate Promised to Rate Got table in forthcoming CNA information memorandum
Schoolhouse data				
CDP-COUNT	CDP_x	Computed	2	Total number of courses completed (Rx and Ax)
A-SCHOOL-COUNT	ASCH_CNT	Computed	2	Completed (graduated, attrited, disenrolled) A-school courses (A1, A3, A4, A5, as well as certain AP courses - for complete list, see forthcoming CNA information memorandum)
GRADUATED-COUNT	GRAD_CNT	Computed	2	A-school courses graduated
ACAD-FAILURE-COUNT	AA_CNT	Computed	2	A-school courses with academic attrite
NON-ACAD-FAILURE-COUNT	NAA_CNT	Computed	2	A-school courses with non-academic attrite
DISENROLLMENT-COUNT	DE_CNT	Computed	2	A-school courses with disenrollment
SETBACK-COUNT	SB_CNT	Computed	2	A-school courses with setbacks
ACADEMIC-ATTRITE-POINTER	AA_PTR	Computed	2	Points to the occurence ("x" below) of the first academic attrite
NONACAD-ATTRITE-POINTER	NAA_PTR	Computed	2	Points to the occurence ("x" below) of the first non-academic attrite
CDP-x[a]	CDP_x	SMF	4	CDP of course x
COURSE-TYPE-x	CRSTYP_x	SMF	2	Course type of course x - see forthcoming CNA information memorandum

Table 8. Description of data fields in the Street-to-Fleet Dataset (continued)

COBOL name	SAS name	Source	Size	Description
START-DATE-x	ST_DT_x	SMF	6	Date sailor reported for course x -YYMMDD
COMPLETION-DATE-x	COMP_DTx	SMF	6	Completion date for course x (does not include time awaiting transfer after completion/termination) - YYMMDD
UI-DAYS-x	UI_x	SMF	3	Under instruction days for course x
AI-DAYS-x	AI_x	SMF	3	Awaiting instruction days for course x
II-DAYS-x	II_x	SMF	3	Interrupted instruction days for course x
AT-DAYS-x	AT_x	SMF	3	Awaiting transfer days for course x
OTHER-DAYS	OTH_x	SMF	3	Days for which man-hour accounting was suspended for course x
COMPLETION-PE-x	COMP_PEx	SMF	3	PE (Personal Event) code at completion of course x
COMPLETION-DISP-x	COMP_D_x	SMF	1	PE disposition at completion of course x: 0:none 1:reassigned/transferred 2:discharged/separated 3:reclassified
SETBACK-x	SB_x	Computed	1	Set back code for course x: 0:no setbacks 1:academic setback 2:non-academic setback 3:both academic and non-academic setbacks 4:stopped man-hour accounting 5:both academic set back and stopped man-hour accounting 6:both non-academic set back and stopped man-hour accounting 7:all three - academic set back, non-academic set back and stopped man-hour accounting
COURSE-OUTCOME-x	OUTCOMEx	Computed	1	Outcome of the x course: 0: Didnot take course 1:graduate 2:academic attrite 3:non-academic attrite 4:disenrollment 5:skip CDP (placesaver - not a real course) 6:other/unknown

a. There are six occurences of each of these fields.

Figure 20. How did the sailor get his or her rating?



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Distribution list

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SNDL

A5 CHNAVPERS WASHINGTON DC
A5 DEPCHNAVPERS - DEPUTY CHIEF
PERS-00B/N00
A5 PERS-00D/OP01DDD - MCPON
Attn: MCPON
A5 PERS-2
A5 PERS-2B
A5 PERS-4
A5 PERS-5
A5 PERS-6
A5 PERS-7
A5 PERS-20
A5 PERS-21
A5 PERS-22
A5 PERS-222
A5 PERS-223
C58K PERSUPP DET GREAT LAKES IL
Attn: COMMANDING OFFICER
Attn: CODE 33
Attn: CODE 20A
FF38 USNA ANNAPOLIS
FF42 NAVPGSCOL MONTEREY CA
Attn: STEVE MEHAY
FF44 NAVWARCOL NEWPORT RI
FJA13 NAVPERSRANDCEN SAN DIEGO CA
FJB1 COMNAVCRUITCOM WASHINGTON DC
Attn: COMMANDING OFFICER
Attn: CODE 20
Attn: CODE 21
Attn: CODE 30
Attn: CODE 33
Attn: CODE 222
Attn: CODE 223
FT1 CNET PENSACOLA FL
Attn: ETE
Attn: OTE
Attn: LEAD
FT108 NAVHOSP GREAT LAKES IL
Attn: DIRECTOR OF COMMUNITY HEALTH
Attn: OHPMD
FT30 SERVSCOLCOM GREAT LAKES IL
Attn: COMMANDING OFFICER
FT31 NTC GREAT LAKES IL
Attn: COMMANDING OFFICER
Attn: MR CARL ROSS
Attn: MR KEN WHITEHEAD
FT78 NETPDTC PENSACOLA FL
Attn: COMMANDING OFFICER
Attn: MR TREY MCDONALD

OPNAV

N1
N12
N1B
N7
N73
N7B
N80
N81